SDL Network Viewer

Version R1_27

User Manual

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About

The Spacial Datalyst Network Viewer offers today's modern network designer a new tool to expedite design speed and thoroughness. Using Relational Database techniques and publicly available databases, the SDL Network Viewer can display complete attribute lists on a per site and/or per path level.

The four Standard Databases that can be downloaded to the SDL Network Viewer are:

FCC Part 101 MW Paths,
FCC Antenna Structure Registrations,
SBA Communications Company,
American Tower Site List.

The main export of the SDL Network Viewer is to a KML file, which offers a rich designer experience that locates sites and paths according to at least these four Standard Database sources.

Additional databases are also available that are frequently used in the Telecom Design industry. These include:

Link List,
Frequency Coordination Reports,
Generic Link Lists,
ULS Query,
ULS MW Apps.

These databases are imported into the Database Viewer where they can be viewed, filtered, sorted and exported using the convenience of an extensive GUI interface. The databases can also be downloaded at any time; their availability is only limited by the provider of the internet service and the database themselves.

This means that for every new design, complete databases can be downloaded and then exported for each design task.

With the aid of the SDL Network Viewer, the designer can now literally not only see all of the other sites in the geographical regions of interest, but, also, when available, the paths as well. The insight that this provides is enormous and unofficial studies suggest that design time can be reduced by as much as 60 percent.

We, at Spatial Datalyst, are happy to provide this new and exciting product and hope to hear about our user's experiences.

Support

Spacial Datalyst uses an email trouble shouting reporting system. User will send an email to the following email address describing the issue and Spacial Datalyst will respond within 24 hours or less.

sdl@tx.rr.com

Order

Getting Started

To get started, the user has to have an official serial number, which will be validated against a web server hosting a validation service.

The serial number will be required upon launch of the product but each subsequent launch will not require you to resubmit your serial number. The serial number will be tied to a Hardware ID, thus allowing usage on one machine per serial number.

Once the user has successfully installed the software, the user can now open the SDL Network Viewer and the Main Menu Tool Bar will be displayed. Five options are available through the Main Menu, which are, Imports, Downloads, FilterPalette, Help and Exit.

All of the four databases shown below have to be downloaded through the Downloads Option:

FCC Part 101 MW Paths,
FCC Antenna Structure Registrations,
SBA Communications Company,
American Tower Site List.

Other databases are also available through the Imports Option and include:

Link List,
Frequency Coordination Reports,
Generic Link Lists,
ULS Query,
ULS MW Apps.

Main Menu

Main Menu Options

The SDL Network Viewer contains several options that allow the user to download, import, filter and export their databases.

The standard databases are:

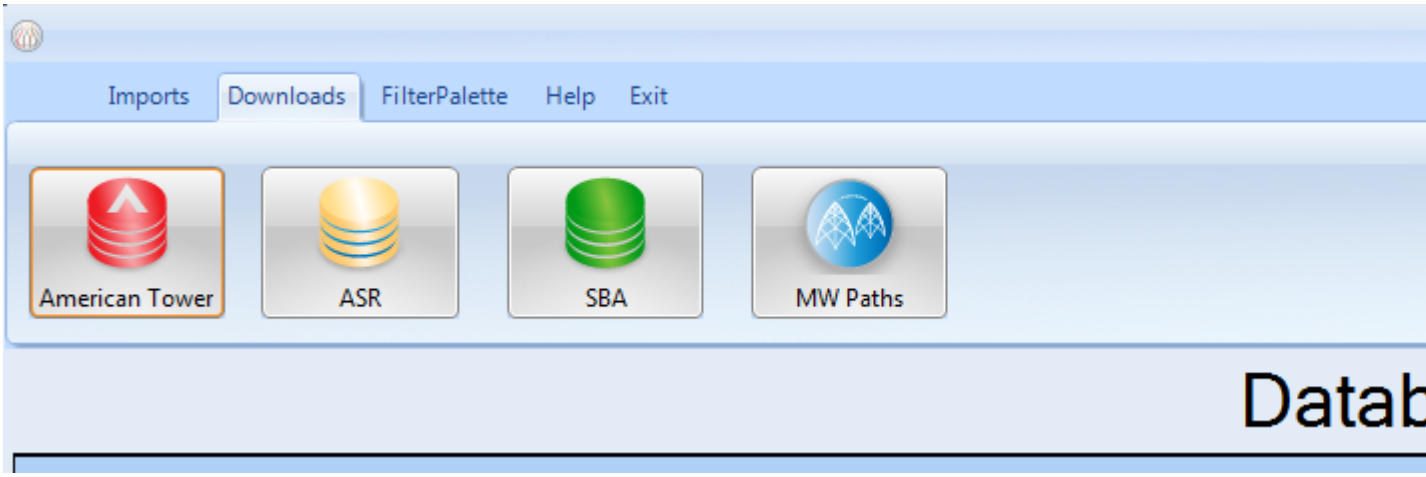
American Tower Site List (American Tower),
FCC Antenna Structure Registrations (ASR),
SBA Communications Company (SBA),
FCC Part 101 MW Paths (MW Paths).

Each database has it's own download option from the Main Menu. This option automatically downloads the database file, unzips if necessary, and builds a schema file where required.

The Imports Option from the Main Menu, allows the user to select the database they want to import into the SDL Network Viewer. When selected, the import opton asks the location of the database folder and then begins the import process. In general, the import process consists of establishing a connection to the database and then using SQL constructions, builds all of the database rows and columns. When the import process is completed, the resultant dataset is displayed in the Database Viewer. (Note that the user can scroll to the right and left and up and down to see all columns and rows.) The user can then sort any column at this point, by simply clicking on the column name.

Additionally, the user can use the FilterPalette from the Main Menu, against the database view and create complex filtering constructs. When exporting to KML, the FilterPalette can be used to select Site Colors, Site Icons and Path Colors. The FilterPalette can then be used to export the filtered database to a CSV, pipe-delimited or KML file as needed. See the FilterPalette section for more details.

Toolbar



The Toolbar at the top of the Main Menu, consists of the following selections:

IMPORTS Option:

American Tower Database, ASR Database, SBA Database, MW Paths Database, Link List, FC Report, Generic, ULS Query, and ULS MW Apps.

DOWNLOADS Option:

American Tower Database, ASR Database, SBA Database, MW Paths Database.

FILTER PALETTE Option:

Filters and KML Palette.

HELP Option:

Help: User documentation.

About: Information about Spacial Datalyst.

Release Notes: Releases.

EXIT Option:

Exits the tool.

Screen Display

It may be necessary to adjust the Screen Options when using SDL Network Viewer with very high resolution displays.

The screen resolution for high DPI monitors is defined to be 100 percent, other values will cause control sizing distortions.

Use the **Program Compatibility troubleshooter** to make sure your screen uses standard settings instead of the expanded landscape setting.

Unusual results may occur causing the Database Viewer to not display correctly. Additionally, the FilterPalette may be sized incorrectly.

Tutorial

The following is a tutorial that will be helpful to the user in executing the SDL Network Viewer.

By reviewing the screenshots of the Main Menu options: Imports, Downloads, and FilterPalette, the user can begin to get familiar with the capability of the SDL Network Viewer.

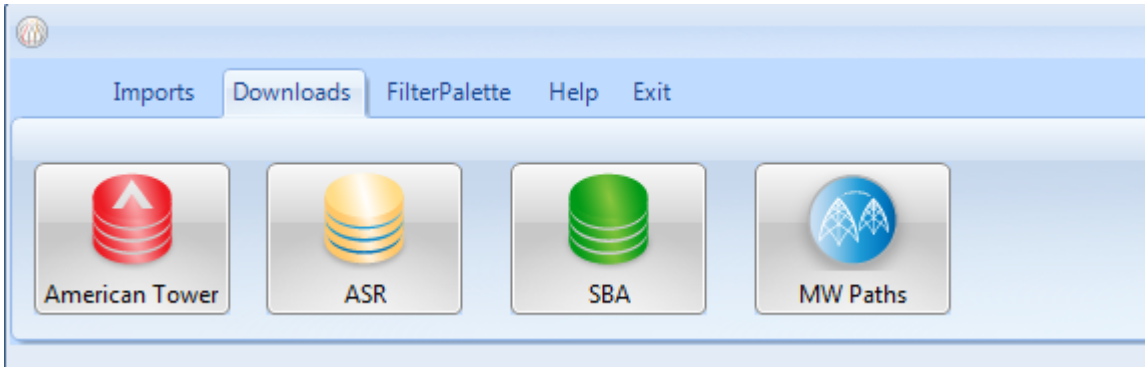
Screenshots

Screenshots are provided of Downloads and Imports.

Downloads consist of the four standard databases that can be downloaded to the SDL Network Viewer.

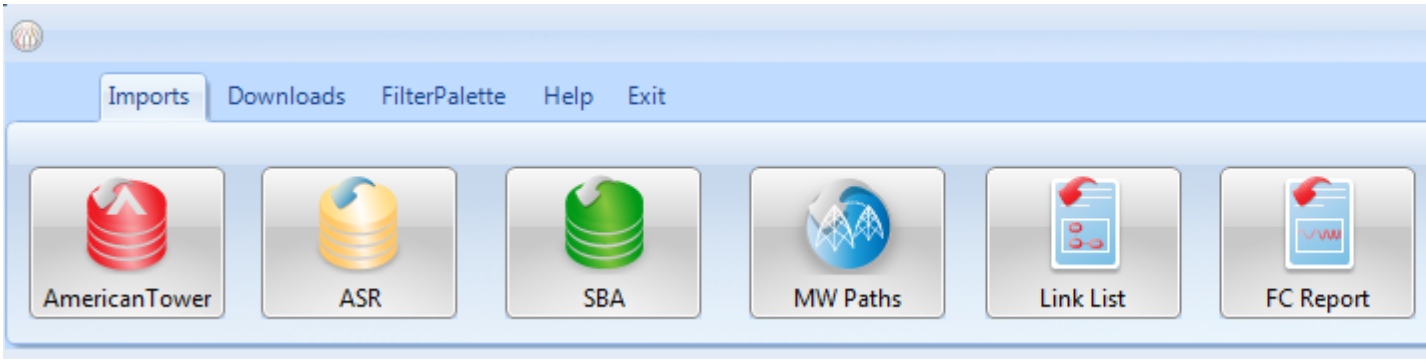
Imports includes all those databases that can be imported into the Database Viewer to be viewed, filtered, sorted and exported to files.

Downloads



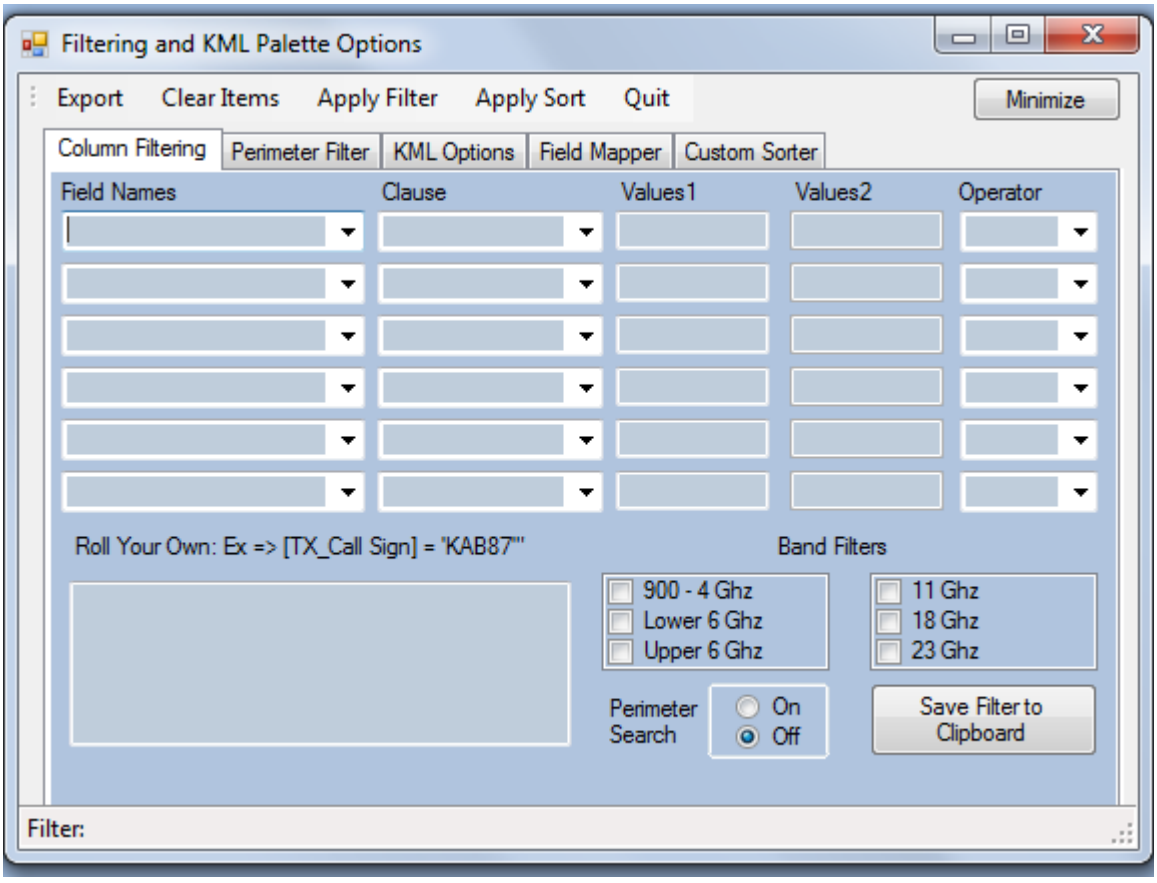
Screenshot of the Downloads Option which is located in the Main Menu of the SDL Network Viewer. The four databases have to be downloaded before being imported to the tool.

Imports



Screenshot of the Imports Option located in the Main Menu of the SDL Network Viewer. The above databases can be imported into the Database Viewer where they can be viewed, filtered, sorted and exported.

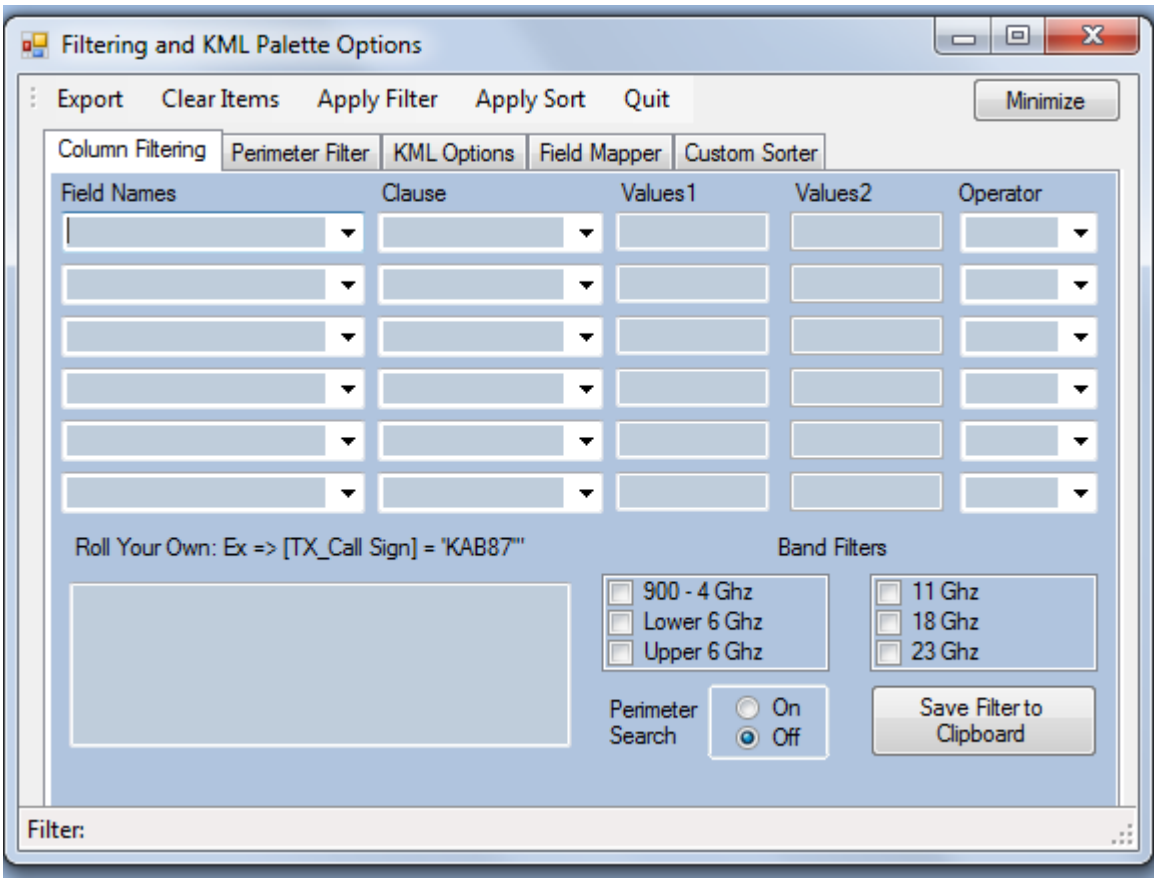
FilterPalette



The FilterPalette Option is located in the Main Menu of the SDL Database Viewer. This option allows the user to filter, sort and/or export imported databases.

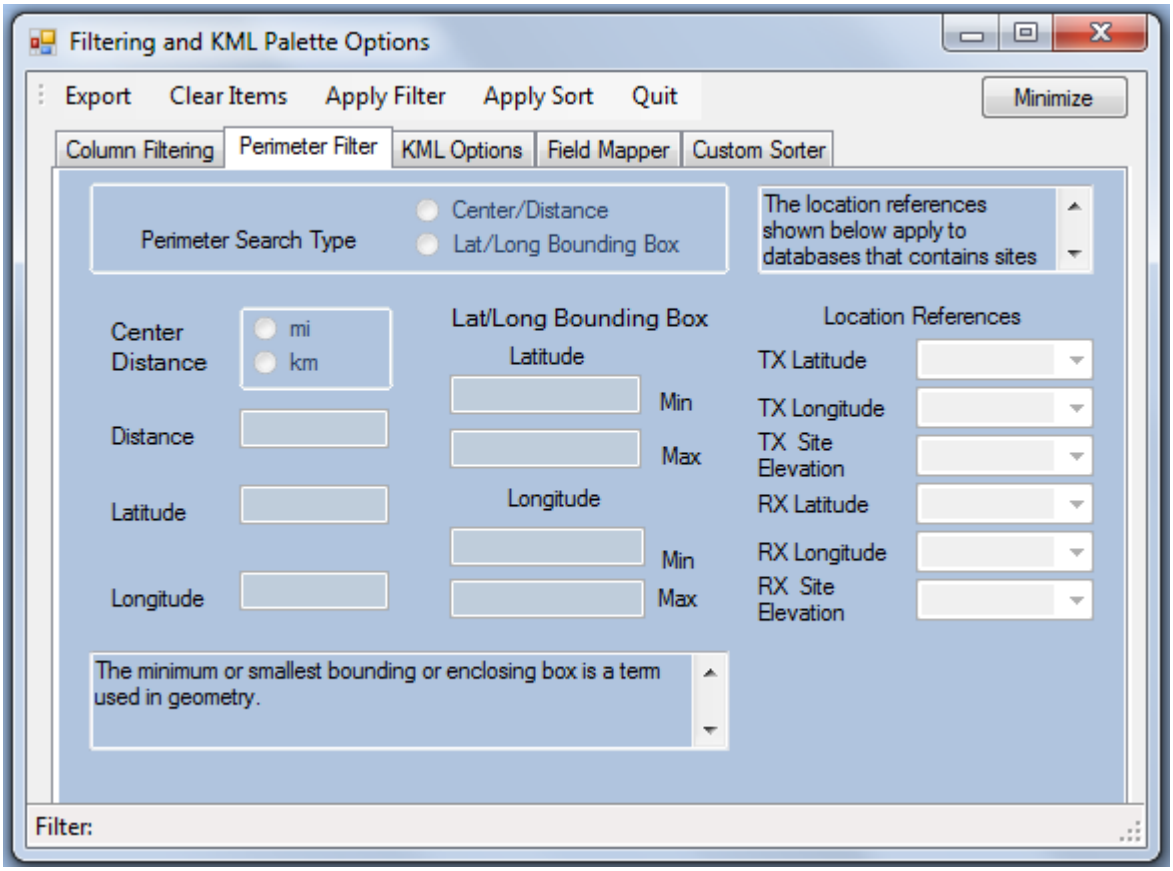
The FilterPalette Filter Tabs include Column Filtering, Perimeter Filtering, KML Options, Field Mapper and Custom Sorter. These features allow the user to filter and sort the imported database. While using the various Filter Tabs, the user can execute any of the Menu Items, which are, Export, Clear Items, Apply Filter and Quit. These allow the user to export the filtered data, clear the filter criteria, execute the filter criteria or quit the FilterPalette.

Column Filtering



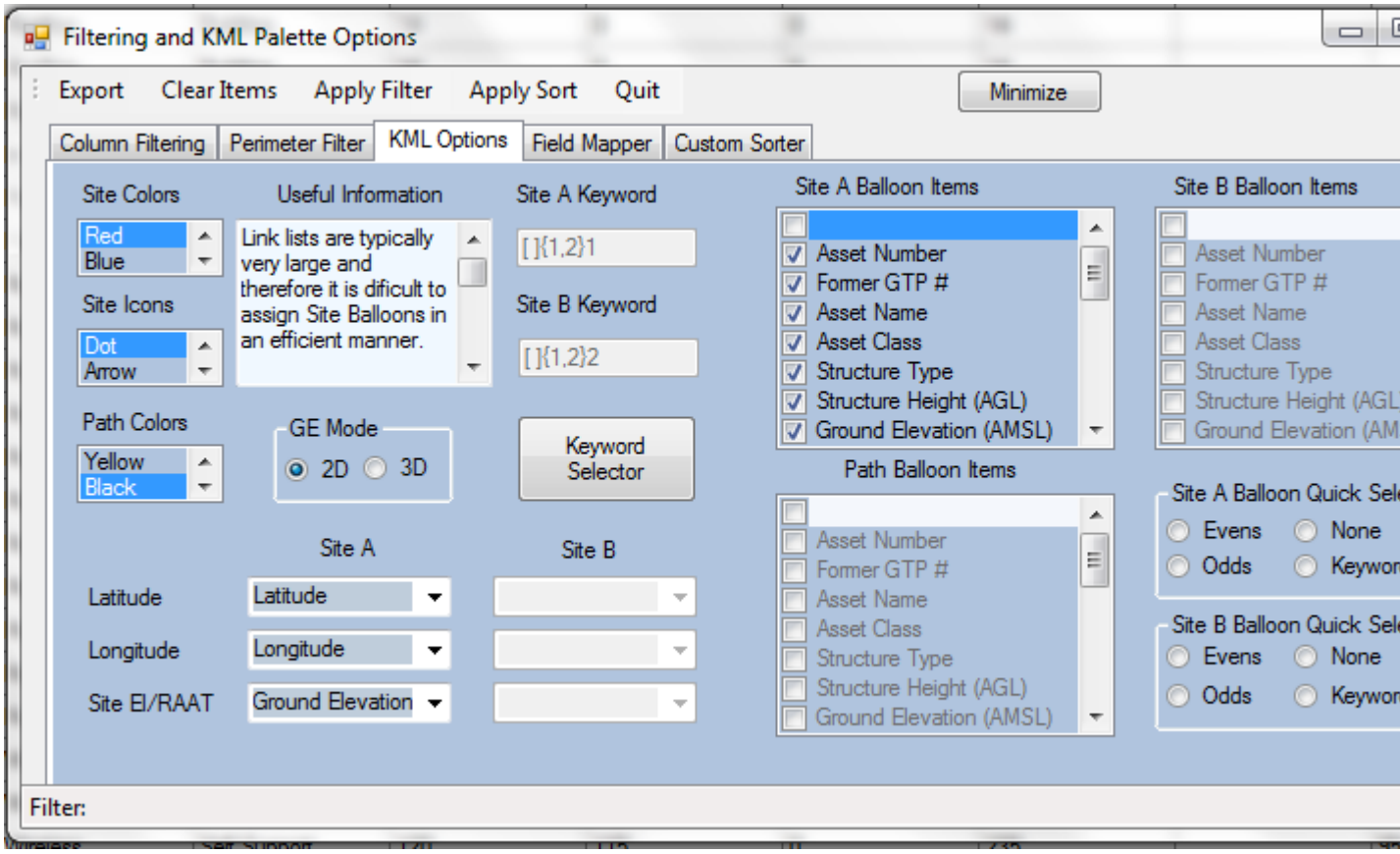
Screenshot of the Column Filtering Tab in the FilterPalette which is located in the Main Menu of the SDL Network Viewer.

Perimeter Filter



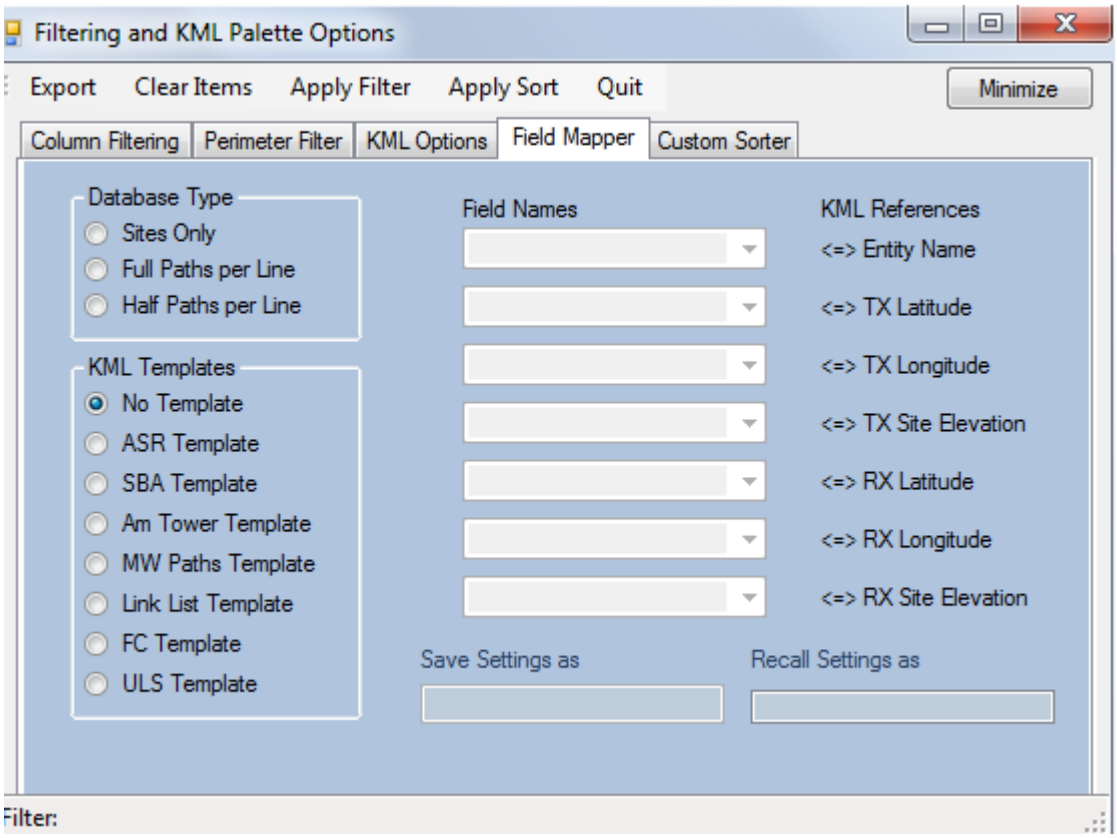
Screenshot of the Perimeter Filter Tab in the FilterPalette which is located in the Main Menu of the SDL Network Viewer.

KML Options



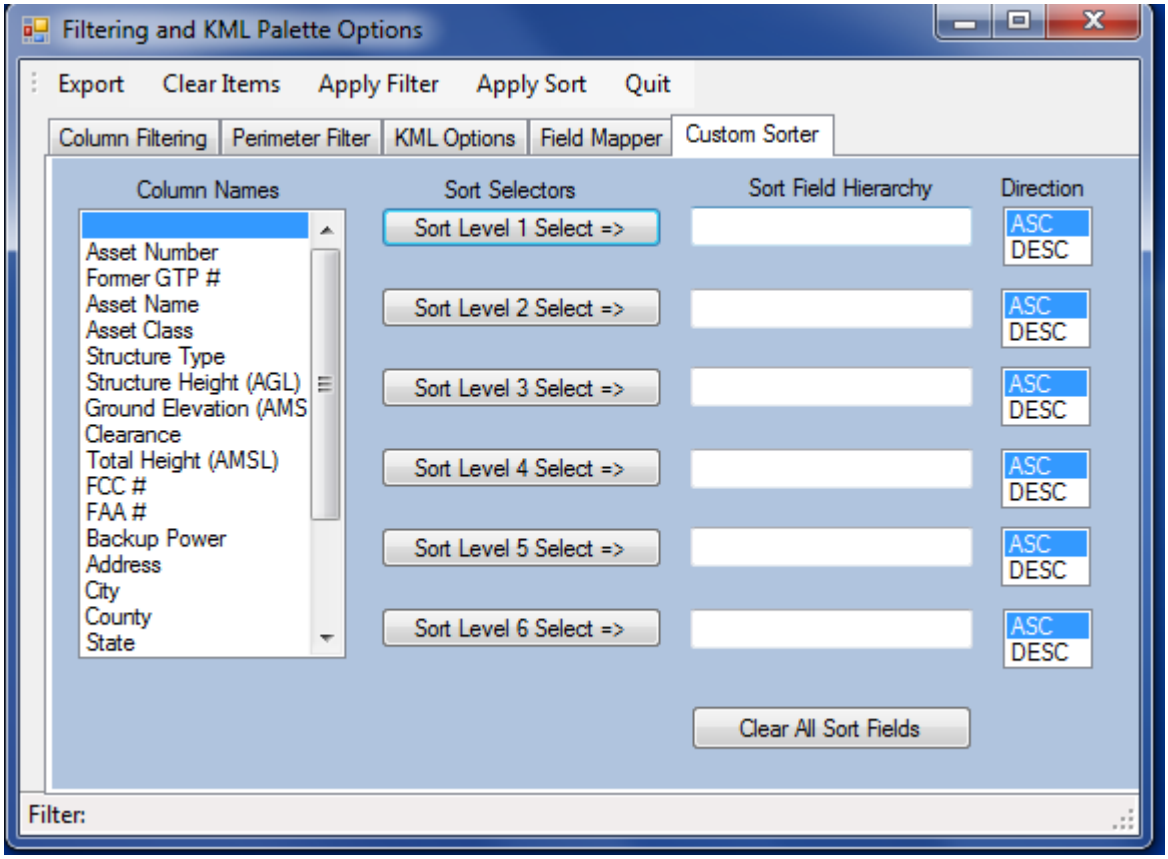
Screenshot of the KML OptionsTab in the FilterPalette which is located in the Main Menu of the SDL Network Viewer.

Field Mapper



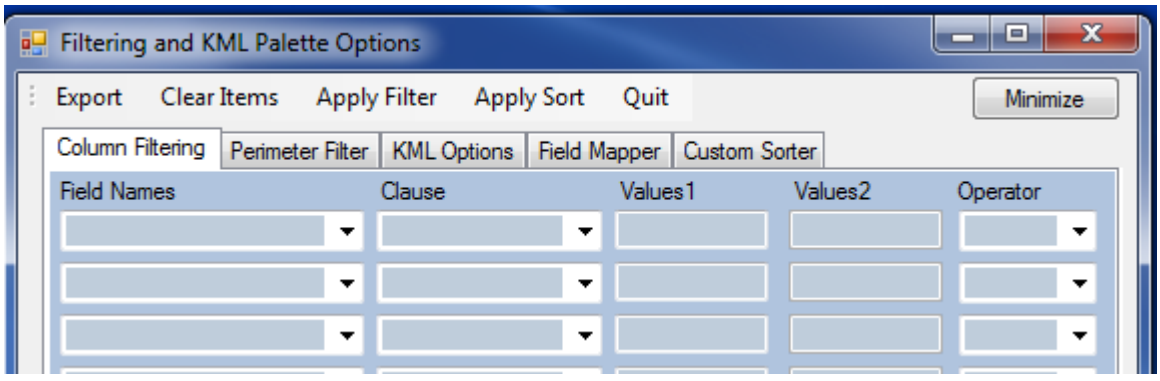
Screenshot of the Field Mapper Tab in the FilterPalette which is located in the Main Menu of the SDL Network Viewer.

Custom Sorter



Screenshot of the Custom Sorter Tab in the FilterPalette which is located in the Main Menu of the SDL Network Viewer.

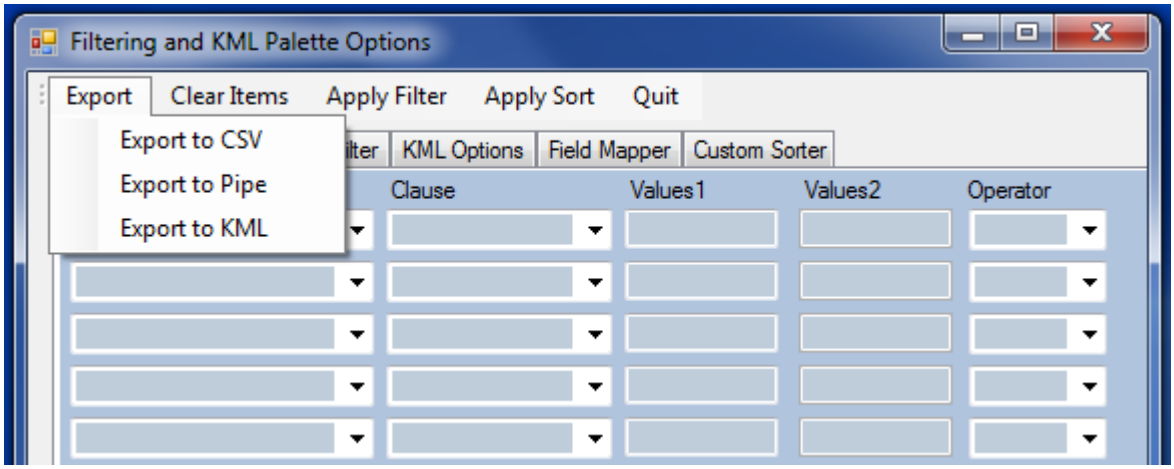
Menu Items



Menu Items, which include, Export, Clear Items, Apply Filter and Quit, is located in the FilterPalette of the Main Menu in the SDL Network Viewer.

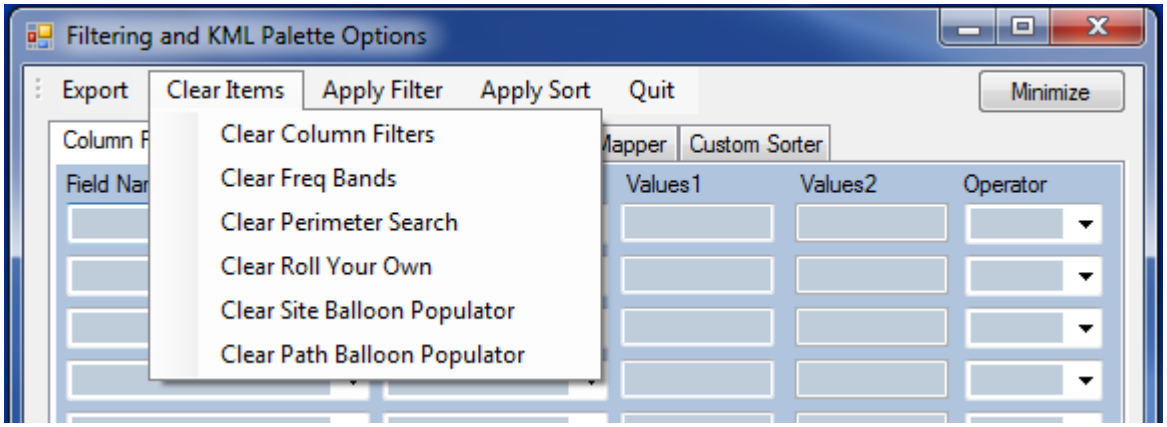
Export is used to export the filtered data to CSV, Pipe-delimited or KML files. Clear Items is used to clear all the fields in the Filter Tab the user is currently working with. Apply Filter is used when the user has completed the filter criteria and wants to execute the filter. Quit enables the user to get out of the FilterPalette.

Export



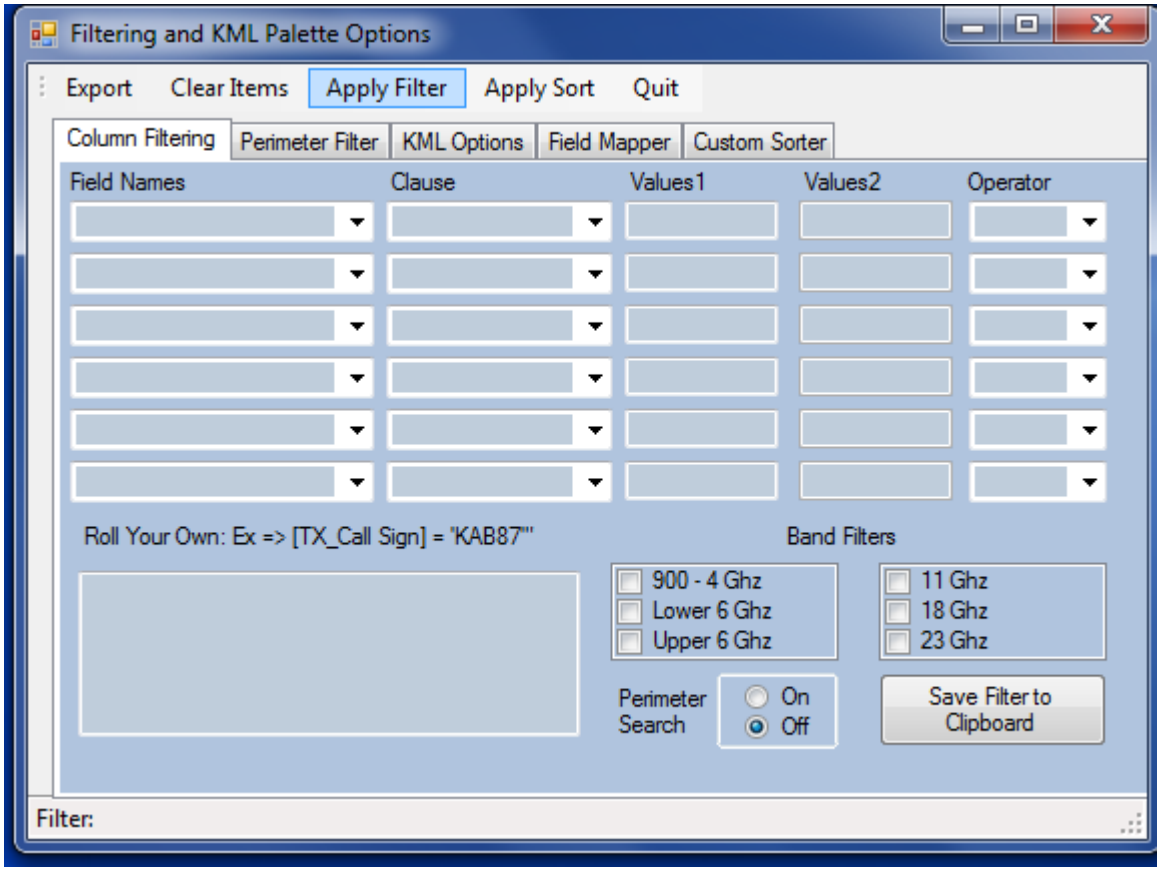
Export, a Menu Item located in the FilterPalette. enables the user to export filtered data to a CSV, Pipe or KML file . The FilterPalette is found in the Main Menu of the SDL Network Viewer.

Clear Items



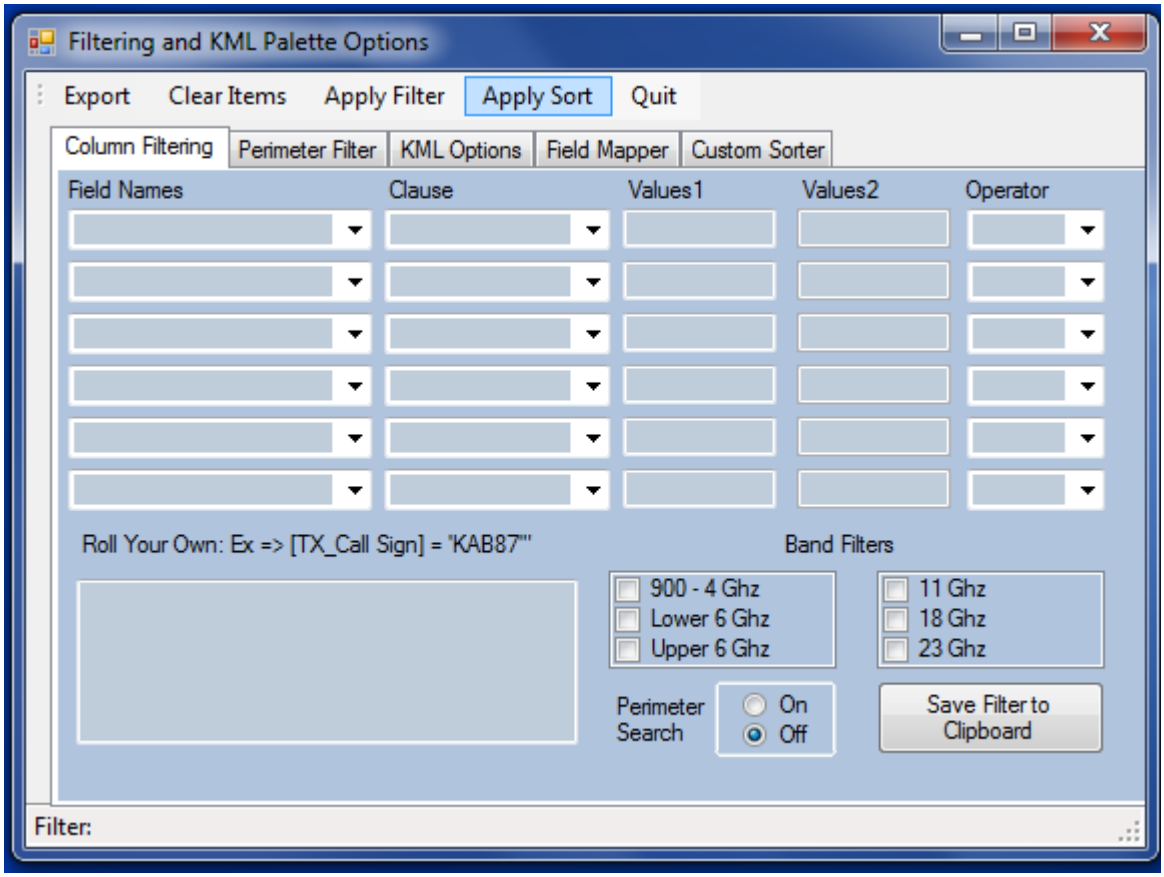
Clear Items, a Menu Item located in the FilterPalette, allows the user to clear all of the filtering criteria entered when in a Filter Tab. The FilterPalette is in the Main Menu of the SDL Network Viewer,

Apply Filter



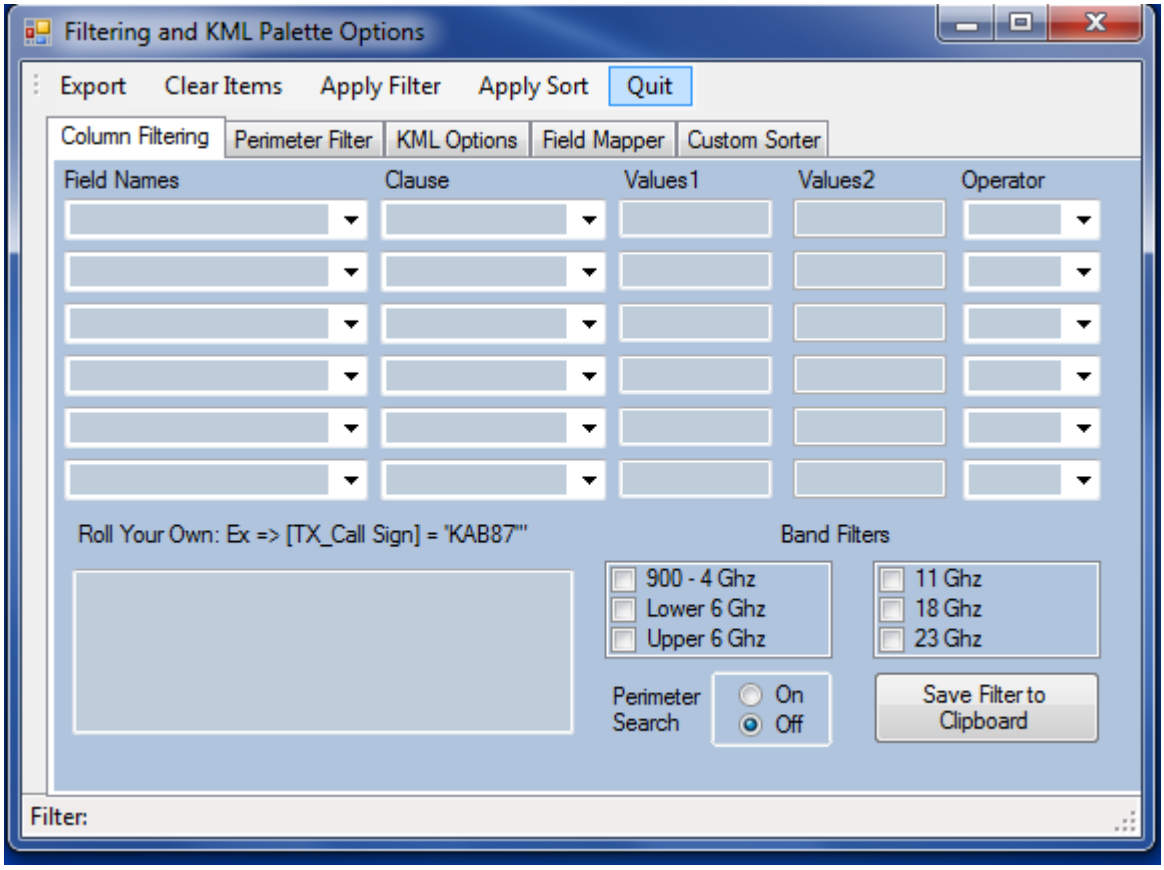
Apply Filter, a Menu Item located in the FilterPalette, executes the filtering criteria of the Column Filtering, Perimeter Filter, KML Options and Field Mapper. The FilterPalette is found in the Main Menu of the SDL Network Viewer.

Apply Sort



Apply Sort, a Menu Item, executes the sort criteria of the Custom Sorter. The FilterPalette is found in the Main Menu of the SDL Network Viewer.

Quit



Quit, a Menu Item, allows user to quit the FilterPalette, which is found in the Main Menu of the SDL Network Viewer .

Downloading, Importing and Exporting

The four Standard Databases which can be downloaded to the SDL Network Viewer are :

FCC Part 101 MW Paths,
FCC Antenna Structure Registrations,
SBA Communications Company,
American Tower Site List.

All four of the above databases have to be downloaded before they can be imported to the Database Viewer.

Additional databases, Link List, Frequency Coordination Report, Generic Path List, ULS Query and ULS MW Apps can all be imported. Once the databases are imported into the Database Viewer, they can be viewed, filtered and exported.

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Video Tutorials

Video tutorials are available in the Help Option which is found in the Main Menu of the SDL Network Viewer.

Downloads

The four Standard Databases which can be downloaded to the SDL Network Viewer are :

FCC Part 101 MW Paths,
FCC Antenna Structure Registrations,
SBA Communications Company,
American Tower Site List.

ASR Database

The ASR Database is downloaded from the FCC ULS site at the following location:

http://wireless.fcc.gov/uls/index.htm?job=transaction&page=weekly

The specific file is under the Antenna Structure Registration section and it is called Registrations. It downloads as r-tower.zip. The zip file contains seven text files in pipe-delimited format.

Those tables are listed below:

CO.dat
EN.dat
HS.dat
RA.dat
RE.dat
SC.dat

These files are renamed and another file is added called RACodeDescriptions.txt. A schema file is also built that tells the database engine how the files are organized.

From the Main Menu, select the ASR Database to be downloaded. A drop down box, labeled 'Browse For Folder' will be displayed in the Database Viewer. When creating a new download, the user will need to create a New Folder location to store the contents as listed above. Any previously created downloads will be displayed. Highlight a folder and select 'OK'. The Database Viewer will now start the download process.

The user will note at the bottom left corner of the Database Viewer, the SDL Network Viewer creates a Status Strip and bar, indicating it is downloading the chosen database. Once the database has completed loading, the Status Strip bar will be filled in completely. The download process concludes with a short message indicating the database has been downloaded and how much time was used to conduct the transaction.

At this point the ASR Database is ready for importing.

The folder created above is used as the reference location when doing an ASR Database Import.

MW Paths Database

The MW Paths Database is downloaded from the FCC ULS site at the following location:

http://wireless.fcc.gov/uls/index.htm?job=transaction&page=weekly

The specific file is under the Microwave - 47 CFR Parts 74 and 101, and 3650 - 3700 MHz section and it is

called Licenses and downloads as l_tower.zip. The zip file contains thirty six text files in pipe-delimited format. Those tables are listed below:

a3.dat,
AN.dat
BC.dat
BF.dat
CO.dat
CP.dat
CS.dat
EM.dat
EN.dat
F2.dat
f3.dat
f5.dat
f6.dat
FF.dat
FR.dat
HD.dat
HS.dat
ir.dat
L2.dat
LA.dat
ic.dat
LF.dat
ll.dat
LO.dat
LS.dat
MF.dat
MK.dat
MW.dat
OP.dat
p2.dat
PA.dat
RC.dat
SC.dat
SF.dat
SG.dat
tp.dat

These files are renamed and a schema file is also built that tells the database engine how the files are organized.

From the Main Menu, select the MW Paths database to be downloaded. A drop down box, labeled 'Browse For Folder' will be displayed in the Database Viewer. When creating a new download, the user will need to create a New Folder location to store the contents as listed above. Any previously created downloads will be displayed. Highlight the folder and select 'OK'. The SDL Network Viewer will now start the download process.

The user will note at the bottom left corner of the Database Viewer, the SDL Network Viewer creates a Status Strip and bar, indicating it is downloading the chosen database. Once the database has completed loading, the Status Strip bar will be filled in completely. The download process concludes with a short message indicating the database has been downloaded and how much time was used to conduct the transaction.

At this point the MW Paths Database is ready for importing.

The folder created above is used as the reference location when doing an MW Paths Database import.

American Tower Database

The American Tower Database is downloaded from the following location:

http://www.americantower.com/corporateus/

The download results in a single Excel file called NationalSiteList.xls.

From the Main Menu, select the American Tower database to be downloaded. A drop down box, labeled 'Browse For Folder' will be displayed in the Database Viewer. When creating a new download, the user will need to create a New Folder location to store the contents as listed above. Any previously created downloads will be displayed. Highlight the folder and select 'OK'. The SDL Network Viewer will now start the download process.

The user will note at the bottom left corner of the Database Viewer, the SDL Network Viewer creates a Status Strip and bar, indicating it is downloading the chosen database. Once the database has completed loading, the Status Strip bar will be filled in completely. The download process concludes with a short message indicating the database has been downloaded and how much time was used to conduct the transaction.

At this point the American Tower database is ready for importing.

The folder created above is used as the reference location when doing an American Tower Database import.

SBA Properties

The SBA Communications Corporation Database is downloaded from the following location:

http://www.sbasite.com/

The download results in a single Excel file called SBA Sites.xlsx.

From the Main Menu, select the SBA Database to be downloaded. A drop down box, labeled 'Browse For Folder' will be displayed in the Database Viewer. When creating a new download, the user will need to create a New Folder location to store the contents as listed above. Any previously created downloads will be displayed. Highlight the folder and select 'OK'. The SDL Network Viewer will now start the download process.

The user will note at the bottom left corner of the Database Viewer, the SDL Network Viewer creates a Status Strip and bar, indicating it is downloading the chosen database. Once the database has completed loading, the Status Strip bar will be filled in completely. The download process concludes with a short message indicating the database has been downloaded and how much time was used to conduct the transaction.

At this point the SBA Communications Corporation Database is ready for importing.

The folder created above is used as the reference location when doing an SBA Communications Corporation Database import.

Imports

All the databases can be imported to the Database Viewer :

American Tower Database, ASR Database, SBA Database, MW Paths Database, Link List, FC Report, Generic Path List, ULS Query and ULS MW Apps.

Import ASR Master

Importing the ASR Database requires that it already be downloaded.

Select the ASR Database from the Imports Option located in the Main Menu and the user will be provided with a 'Browse for Folder' prompt. Select the folder of the ASR Database for import and then, select 'OK'.

Once the folder is selected, the SDL Network Viewer database engine takes over and creates the appropriate queries by which to import the data. Note the Status Strip display in the lower left hand corner of the Database Viewer. It displays the current database being imported.

The ASR Database is called a Standard Database in the terminology of this tool, in that its column structure is predefined. Once the query has executed the data is then populated into the Database Viewer which looks like an ordinary spreadsheet. The user can immediately start to surf the columns and rows using the Database Viewer sliders as appropriate. Additionally, the column can be sorted at this point by simply clicking in the column header.

It is recommended that the user get acquainted with the column structure and the size of the database that has been imported, as this information is useful when using the FilterPalette. The column structure for the ASR Database is as follows:

ASR
Structure
Status
Unique System Identifier
Height AGL (w/o app/feet)
Height AGL (w app/feet)
Ground Level (amsl/feet)
Structure Site Address
Structure City
Structure State
Filer
Title
Owner Corp
Owner Name
Owner Attention
Owner Email
Owner Address
Owner PO Box
Owner City
Owner State
Owner Zip
Rep Corp
Rep Name
Rep Attention

Rep Email
Rep Address
Rep PO Box
Rep City
Rep State
Rep Zip
Latitude Dec Degrees
Longitude Dec Degrees

The number of rows imported is shown in the Status Strip at the bottom of the Database Viewer, when import completed. The Database Viewer can be resized as necessary to accommodate various screen sizes. The number of rows is a useful metric when the database is manipulated in follow-on tasks as it always represents the number of rows that are currently in the Database Viewer. This number obviously changes as the user selects different filter criteria.

A short message is displayed after the import informs the user of how much time the import process has taken. Large standard databases such as the ASR Database and the MW Paths Database will take longer importing than the smaller standard databases such as the SBA Database and American Tower Database.

Import American Tower Database

Importing the American Tower Database requires that it already be downloaded.

Select the American Tower Database from the Imports Option located in the Main Menu and the user will be provided with a 'Browse for Folder' prompt. Select the folder of the American Tower Database for import by highlighting and then, select 'OK'.

Once the folder is selected, the SDL Network Viewer database engine takes over and creates the appropriate queries by which to import the data. Note the Status strip display in the lower left hand corner of the Database Viewer. It displays the current database being imported.

The American Tower Database is called a Standard Database in the terminology of this tool in that its column structure is predefined. Once the query has executed the data is then populated into the Database Viewer which looks like an ordinary spreadsheet. The user can immediately start to surf the columns and rows using the Database Viewer sliders as appropriate. Additionally, the column can be sorted at this point by simply clicking in the column header.

It is recommended that the user get acquainted with the column structure and the size of the database that has been imported as this information is useful when using the FilterPalette. The column structure for the American Tower Database is as follows:

Asset Number
Former GTP #
Asset Name
Asset Class
Structure Type
Structure Height (AGL)
Ground Elevation (AMSL)
Clearance
Total Height (AMSL)
FCC #
FAA #
Backup Power
Address
City

County
State
Zip Code
BTA
MTA
Area
Latitude
Longitude

The number of rows imported is shown in the Status Strip at the bottom of the Database Viewer, when import completed. The Database Viewer can be resized as necessary to accommodate various screen sizes. The number of rows is a useful metric when the database is manipulated in follow-on tasks as it always represents the number of rows that are currently in the Database Viewer. This number obviously changes as the user selects different filter criteria.

A short message is displayed after the import informs the user of how much time the import process has taken. Large standard databases such as the ASR Database and the MW Paths Database will take longer importing than the smaller standard databases such as the SBA Database and American Tower Database.

Import SBA Database

Importing the SBA Communications Database requires that it already be downloaded.

Select the SBA Communications Database from the Imports Option located in the Main Menu and the user will be provided with a 'Browse for Folder' prompt. Select the folder of the SBA Communications Database for import by highlighting and then, select 'OK'.

Once the folder is selected, the SDL Network Viewer database engine takes over and creates the appropriate queries by which to import the data. Note the Status Strip display in the lower left hand corner of the Database Viewer. It displays the current database being imported.

The SBA Communications Database is called a Standard Database in the terminology of this tool in that its column structure is predefined. Once the query has executed the data is then populated into the Database Viewer which looks like an ordinary spreadsheet.

The user can immediately start to surf the columns and rows using the Database Viewer sliders as appropriate. Additionally, the column can be sorted at this point by simply clicking in the column header.

It is recommended that the user get acquainted with the column structure and the size of the database that has been imported as this information is useful when using the FilterPalette. The column structure for the SBA Communications Database is as follows:

Site Code
Site Name
Latitude
Longitude
City
State
Zip
County
Type
Height
MTA
BTA
Contact

Phone
Email
RSM
RSM Email

The number of rows imported is shown in the Status Strip at the bottom of the Database Viewer when import completed. The Database Viewer can be resized as necessary to accommodate various screen sizes. The number of rows is a useful metric when the database is manipulated in follow-on tasks as it always represents the number of rows that are currently in the Database Viewer. This number obviously changes as the user selects different filter criteria.

A short message is displayed after the import informs the user of how much time the import process has taken. Large standard databases such as the ASR Database and the MW Paths Database will take longer importing than the smaller standard databases such as the SBA Communications Database and American Tower Database.

Import MW Paths Database

Importing a MW Paths Database requires that the database already be downloaded.

Select the MW Paths Database from the Imports Option located in the Main Menu and the user will be provided with a 'Browse for Folder' prompt. Select the folder of the MW Paths Database for import by highlighting and then, select 'OK'.

Once the folder is selected, the SDL Network Viewer database engine takes over and creates the appropriate queries by which to import the data. Note the Status Strip display in the lower left hand corner of the Database Viewer. It displays the current database being imported.

The MW Paths Database is called a Standard Database in the terminology of this tool in that its column structure is predefined. Once the query has executed the data is then populated into the Database Viewer which looks like an ordinary spreadsheet.

The user can immediately start to surf the columns and rows using the Database Viewer sliders as appropriate. Additionally, the column can be sorted at this point by simply clicking in the column header.

To import the MW Paths database, the user will go to the Imports Option, select the MW Paths Database and a MW Paths Import Type box will be displayed. The MW Paths Database is very large and a lot of memory is consumed, therefore it is necessary to have two imports, hardware and entity. This box allows the user to select either Type 1 for Hardware or Type II for Entity.

Once the Import Type is selected, the user will select GO and then the user will import the MW Paths Database previously downloaded. When the import is loaded, the Database Viewer will indicate which Import Type you have selected to import your data.

It is recommended that the user get acquainted with the column structure and the size of the database that has been imported as this information is useful when using the FilterPalette. The column structure for the MW Paths Database is as follows:

Type I Field Names Hardware:

Licensee Name
Contact Licensee Name
FCC Registration Number (FRN)
TX_Unique System Identifier
TX_Call Sign

RX_Call Sign
TX_Site Status
TX_Location Address
TX_Location City
TX_Location County/Borough/Parish
TX_Location State
TX_Ground Elevation
TX Lat Dec Degrees
TX Long Dec Degrees
TX_Tower Registration Number
TX_Structure Type
TX_Height of Support Structure
TX_Overall Height of Structure
RX_Site Status
RX_Location Address
RX_Location City
RX_Location County/Borough/Parish
RX_Location State
RX_Ground Elevation
RX Lat Dec Degrees
RX Long Dec Degrees
RX_Tower Registration Number
RX_Structure Type
RX_Height of Support Structure
RX_Overall Height of Structure
RX Height to Center RAAT
TX_Antenna Make
TX Antenna Model
RX_Antenna Make
RX_Antenna Model
Transmitter Make
Transmitter Model
Frequency Assigned
License Status

Type II Field Names Entity:

Licensee Name
Contact Licensee Name
L Contact Person
L Phone
L Fax
L Email
L Street Address
L City
L State
L Zip Code
L PO Box
L Attention Line
CL Contact Person
CL Phone
CL Fax
CL Email
CL Street Address
CL City
CL State
CL Zip Code

CL PO Box
CL Attention Line
FCC Registration Number (FRN)
TX_Unique System Identifier
TX_Call Sign
RX_Call Sign
TX_Site Status
TX_Location Address
TX_Location City
TX_Location County/Borough/Parish
TX_Location State
TX_Ground Elevation
TX Lat Dec Degrees
TX Long Dec Degrees
TX_Tower Registration Number
TX_Structure Type
TX_Height of Support Structure
TX_Overall Height of Structure
TX_Height to Center RAAT
RX_Site Status
RX_Location Address
RX_Location City
RX_Location County/Borough/Parish
RX_Location State
RX_Ground Elevation
RX Lat Dec Degrees
RX Long Dec Degrees
RX_Tower Registration Number
RX_Structure Type
RX_Height of Support Structure
RX_Overall Height of Structure
RX Height to Center RAAT
TX_Antenna Make
TX Antenna Model
RX_Antenna Make
RX_Antenna Model
Transmitter Make
Transmitter Model

The number of rows imported is shown in the Status Strip at the bottom of the Database Viewer when import completed. The Database Viewer can be resized as necessary to accommodate various screen sizes. The number of rows is a useful metric when the database is manipulated in follow-on tasks as it always represents the number of rows that are currently in the Database Viewer. This number obviously changes as the user selects different filter criteria.

A short message is displayed after the import informs the user of how much time the import process has taken. Large standard databases such as the ASR Database and the MW Paths Database will take longer importing than the smaller standard databases such as the SBA Communications Database and American Tower Database.

Import Link List

Importing the Link List database requires that the database already be downloaded (or otherwise built).

Select the Link List Database from the Imports Option located in the Main Menu and a directory list will be

displayed. Select and open the desired file.

Once a file is selected, the SDL Network Viewer database engine takes over and creates the appropriate queries that import the data. The Status strip in the lower left hand corner of the Database Viewer will note the database being imported.

The Link List Database is called Standard Database in the terminology of this tool in that its column structure is predefined. Once the query has executed, the data is then populated into the Database Viewer which looks like an ordinary spreadsheet.

The user can immediately start to surf the columns and rows using the Database Viewer sliders as appropriate. Additionally, the column can be sorted at this point by simply clicking in the column header.

It is recommended that the user get acquainted with the column structure and the size of the database that has been imported as this information is useful when using the FilterPalette. The column structure for the Link List Database is as follows:

Site name 1
Site name 2
Call sign 1
Call sign 2
Station code 1
Station code 2
Latitude 1
Latitude 2
Longitude 1
Longitude 2
True azimuth (°) 1
True azimuth (°) 2
Vertical angle (°) 1
Vertical angle (°) 2
Elevation (ft) 1
Elevation (ft) 2
Antenna model 1
Antenna model 2
Antenna gain (dBi) 1
Antenna gain (dBi) 2
Antenna gain (dBd) 1
Antenna gain (dBd) 2
Antenna diameter (ft) 1
Antenna diameter (ft) 2
Antenna 3 dB beamwidth H (°) 1
Antenna 3 dB beamwidth H (°) 2
Antenna height (ft) 1
Antenna height (ft) 2
Antenna azimuth (°) 1
Antenna azimuth (°) 2
Antenna down tilt (±°) 1
Antenna down tilt (±°) 2
Orientation loss (dB) 1
Orientation loss (dB) 2
TX line model 1
TX line model 2
TX line unit loss (dB/100 ft) 1
TX line unit loss (dB/100 ft) 2
TX line length (ft) 1
TX line length (ft) 2
TX line loss (dB) 1

TX line loss (dB) 2
Connector loss (dB) 1
Connector loss (dB) 2
Miscellaneous loss (dB) 1
Miscellaneous loss (dB) 2
Circulator branching loss (dB) 1
Circulator branching loss (dB) 2
TX switch loss (dB) 1
TX switch loss (dB) 2
TX filter loss (dB) 1
TX filter loss (dB) 2
Other TX loss (dB) 1
Other TX loss (dB) 2
RX hybrid loss (dB) 1
RX hybrid loss (dB) 2
RX filter loss (dB) 1
RX filter loss (dB) 2
Other RX loss (dB) 1
Other RX loss (dB) 2
Diversity RX circulator loss (dB) 1
Diversity RX circulator loss (dB) 2
Other diversity RX loss (dB) 1
Other diversity RX loss (dB) 2
Frequency (MHz)
Path length (mi)
Free space loss (dB)
Atmospheric absorption loss (dB)
Field margin (dB)
Diffraction loss
Main net path loss (dB) 1
Main net path loss (dB) 2
Diversity net path loss (dB) 1
Diversity net path loss (dB) 2
Configuration 1
Configuration 2
Radio model 1
Radio model 2
TX power (dBm) 1
TX power (dBm) 2
Emission designator 1
Emission designator 2
EIRP (dBm) 1
EIRP (dBm) 2
ERP (dbm) 1
ERP (dbm) 2
ERP (watts) 1
ERP (watts) 2
RX threshold criteria 1
RX threshold criteria 2
RX threshold level (dBm) 1
RX threshold level (dBm) 2
RX threshold level (µv) 1
RX threshold level (µv) 2
Main receive signal (dBm) 1
Main receive signal (dBm) 2
Diversity receive signal (dBm) 1
Diversity receive signal (dBm) 2
Thermal fade margin (dB) 1

Thermal fade margin (dB) 2
Number of interference cases 1
Number of interference cases 2
Composite interference level (multipath) (dBm) 1
Composite interference level (multipath) (dBm) 2
Interference fade margin (multipath) (dB) 1
Interference fade margin (multipath) (dB) 2
XPD fade margin - multipath (dB) 1
XPD fade margin - multipath (dB) 2
Flat fade margin - multipath (dB) 1
Flat fade margin - multipath (dB) 2
Dispersive fade margin (dB) 1
Dispersive fade margin (dB) 2
Dispersive fade occurrence factor
Effective fade margin (dB) 1
Effective fade margin (dB) 2
Climatic factor
Terrain roughness (ft)
C factor
Average annual temperature (°F)
Fade occurrence factor (Po)
Worst month multipath availability (%) 1
Worst month multipath availability (%) 2
Worst month multipath unavailability (sec) 1
Worst month multipath unavailability (sec) 2
Annual multipath availability (%) 1
Annual multipath availability (%) 2
Annual multipath unavailability (sec) 1
Annual multipath unavailability (sec) 2
Annual 2 way multipath availability (%)
Annual 2 way multipath unavailability (sec)
Polarization
Rain region
0#01% rain rate (mm/hr)
Rain rate (mm/hr)
Flat fade margin - rain (dB)
Rain attenuation (dB)
Annual rain availability (%)
Annual rain unavailability (min)
Annual rain + multipath availability (%)
Annual rain + multipath unavailability (min)
TX1 (MHz) 1
TX1 (MHz) 2
TX2 (MHz) 1
TX2 (MHz) 2
TX3 (MHz) 1
TX3 (MHz) 2
TX4 (MHz) 1
TX4 (MHz) 2
TX5 (MHz) 1
TX5 (MHz) 2
TX6 (MHz) 1
TX6 (MHz) 2
TX7 (MHz) 1
TX7 (MHz) 2
TX8 (MHz) 1
TX8 (MHz) 2
TX9 (MHz) 1

TX9 (MHz) 2
TX10 (MHz) 1
TX10 (MHz) 2
TX11 (MHz) 1
TX11 (MHz) 2
TX12 (MHz) 1
TX12 (MHz) 2
NoName
PathLabel

The number of rows imported is shown in the Status Strip at the bottom of the Database Viewer when import completed. The Database Viewer can be resized as necessary to accommodate various screen sizes. The number of rows is a useful metric when the database is manipulated in follow-on tasks as it always represents the number of rows that are currently in the Database Viewer. This number obviously changes as the user selects different filter criteria.

A short message is displayed after the import informs the user of how much time the import process has taken.

Import Frequency Coordination Report

Importing the Frequency Coordination Database requires that the database already be downloaded (or otherwise built).

Select the Frequency Coordination Database from the Imports Option located in the Main Menu and a directory list will be displayed. Select and open the desired file.

Once a file is selected, the SDL Network Viewer database engine takes over and creates the appropriate queries by which to import the data. The Status Strip in the lower left hand corner of the Database Viewer will note the database being imported.

The Frequency Coordination Database is called a Standard Database in the terminology of this tool in that its column structure is predefined. Once the query has executed the data is then populated into the Database Viewer which looks like an ordinary spreadsheet.

The user can immediately start to surf the columns and rows using the Database Viewer sliders as appropriate. Additionally, the column can be sorted at this point by simply clicking in the column header.

It is recommended that the user get acquainted with the column structure and the size of the database that has been imported as this information is useful when using the FilterPalette. The column structure for the Frequency Coordination Database is as follows:

Market
State
Path number
TX Site name
RX Site name
Main or space antenna
Frequency band
TX power (dBm)
Transmit pad (dB)
TX loss (dB)
RX loss (dB)
Antenna height ft
Antenna model
Receive signal (dBm)

Radio model
FCC radio identifier
FCC emission type
Fade margin (dB)
EIRP (dBm)
Latitude
Longitude
Datum
Ground elevation ft
True azimuth (?)
Path length mi
Comments
ASR
Structure type
Address
Tower height w App ft
Tower height w/o App ft
City
Zip code
TX frequency (MHz)
Polarization
PathLabel

The number of rows imported is shown in the Status Strip at the bottom of the Database Viewer, when import completed. The Database Viewer can be resized as necessary to accommodate various screen sizes. The number of rows is a useful metric when the database is manipulated in follow-on tasks as it always represents the number of rows that are currently in the Database Viewer. This number obviously changes as the user selects different filter criteria.

A short message is displayed after the import informs the user of how much time the import process has taken.

Import Generic Path List

Importing the Generic Path List Database requires that the database already be downloaded (or otherwise build).

Select the Generic Path List Database from the Imports Option located in the Main Menu and a directory list will be displayed. Select and open the desired file.

Once a file is selected, the SDL Network Viewer database engine takes over and creates the appropriate queries by which to import the data. The Status Strip in the lower left hand corner of the Database Viewer will note the database being imported.

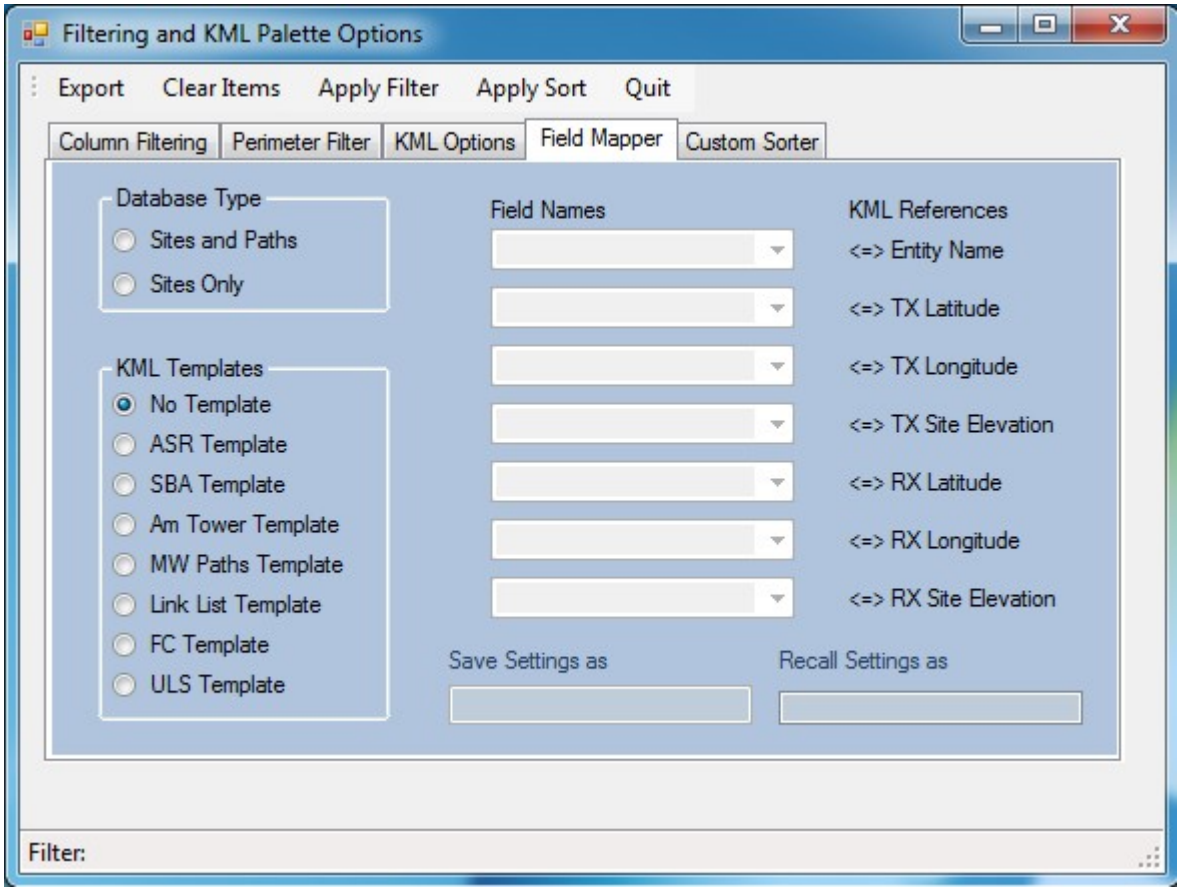
The Generic Path List Database is non--standard in the sense that its column structure is not predefined. Once the query has executed, the data is then populated into the Database Viewer which looks like an ordinary spreadsheet.

The user can immediately start to surf the columns and rows using the Database Viewer sliders as appropriate. Additionally, the column can be sorted at this point by simply clicking in the column header.

It is recommended that the user get acquainted with the column structure and the size of the database that has been imported as this information is useful when using the FilterPalette. The column structure for the Generic Path List Database is not predefined so that the SDL Network Viewer export engine does not know

its structure.

Therefore, in order to export to file as a KML, the fields must be mapped. This is done with the Field Mapper in the FilterPalette as shown below:



If the user knows in advance that the field structure is the same as a Standard Database, then a KML Template may be chosen as its field structure.

If the field structure is unknown to the SDL Network Viewer export engine, the fields will have to be mapped in order to export the Latitude, Longitude and Site Elevation fields which are critical to the KML mapping process.

The KML Options also do not know the structure of the Generic Path List Database. It must be told which fields belong in the Sites Balloon and which fields belong in the Path Balloon.

After the fields are mapped and the balloon fields are chosen, then the database can be exported to KML like any other database.

Import ULS Query

The Universal Licensing System Query Database is like a MW Paths Database, in that it has a similar field structure; however, the source of the database is completely different.

The source of the ULS Query Database is a text-delimited file that contains all of the tables that apply to a MW Paths Database in one file.

The ULS Query Database text file is downloaded separately from any other database, but it too comes from the ULS site based upon a specific query made of the the entire ULS site. In this sense it is slightly different

from a MW Paths Database, in that it can contain frequencies from other bands than those normally shown.

Since it is not known in advance what all of the bands may be, the Band Selector may not be able to filter on all of the bands in the database.

But with this exception, the ULS Query Database can be imported, filtered and exported just like the MW Paths Database.

Import ULS MW Apps

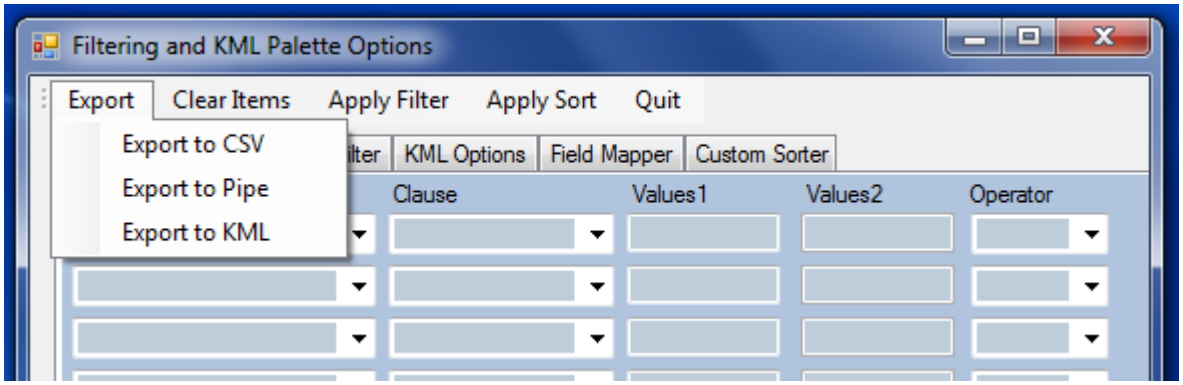
The Universal Licensing System MW Apps Database is like a MW Paths Database. The ULS MW Apps Database is created by the user and can be imported, filtered and exported just like the MW Paths Database.

The ULS MW Apps import is a ULS Query of the existing(at the time of query) MW license applications that are in the FCC database.

Exports

Exporting to a CSV, Pipe or KML file is available through the FilterPalette found in the Main Menu of the SDL Network Viewer.

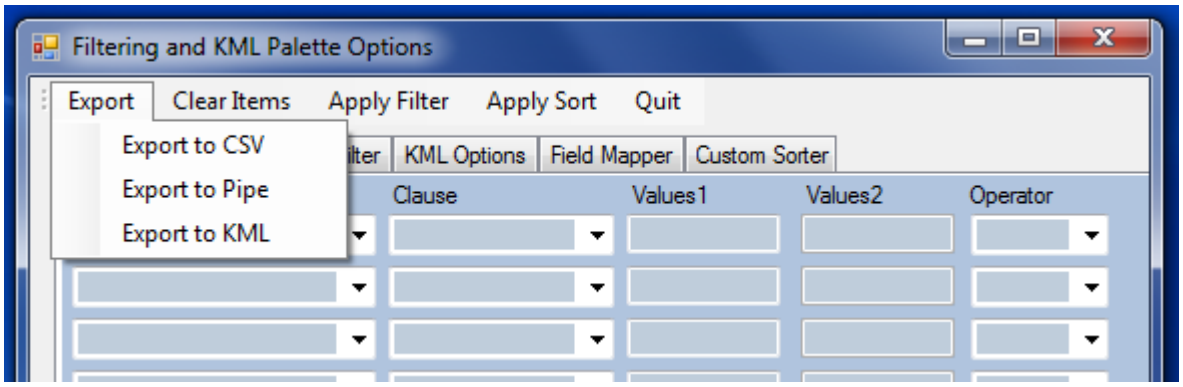
Export to CSV



The export to a CSV file is available through the FilterPalette found in the Main Menu of the SDL Network Viewer.

When the Export to CSV option is chosen, the database, as filtered and sorted, will be output directly to a CSV file.

Export to Pipe



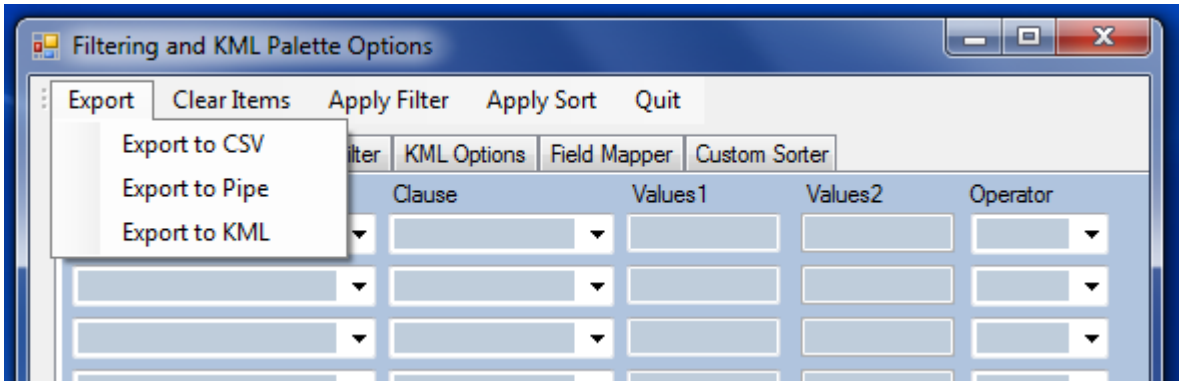
The export to a pipe-delimited file is available through the FilterPalette found in the Main Menu of the SDL Network Viewer.

When the Export to Pipe is chosen, the database, as filtered and sorted, will be output directly to a pipe-delimited text file.

The pipe-delimited text file is presented at this time as it is the same format as the the files downloaded from the ULS site. It has no specific application other than to be consistent with the ULS downloads at this time.

Generally, the CSV files and the KML files are all that is required to interface to other path manipulation software, database programs and spreadsheet programs.

Export to KML



The export to a KML file is available through the FilterPalette found in the Main Menu of the SDL Network Viewer.

The Export to KML file is a Google Earth Keyhole Markup Language compatible file.

The SDL Network Viewer export engine formats the file so that latitude, longitude and site elevation are tagged as needed to make the KML file display properly.

The FilterPalette is used to define those fields that the operator wants to have displayed in either the Site Balloon or the Path Balloon objects.

FilterPalette

The FilterPalette Option is located in the Main Menu of the SDL Database Viewer. Once the user has a database imported, the FilterPalette will be used to filter, sort and export by executing the following Filter Tabs.

Column Filtering,
Perimeter Filtering,
KML Options,
Field Mapper,
Custom Sorter.

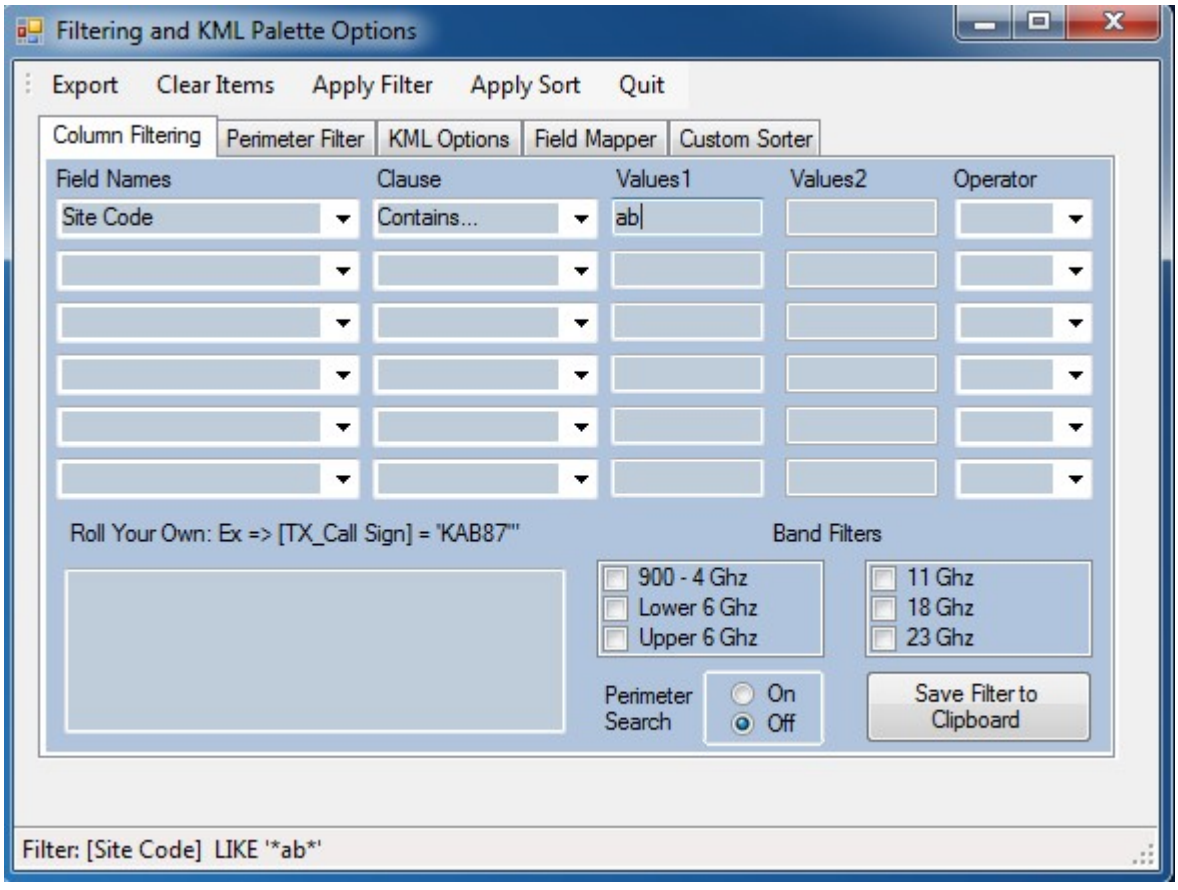
.

Column Filtering

The FilterPalette Option is located in the Main Menu of the SDL Network Viewer. Once you have a database imported to the Database Viewer, click on the FilterPalette Option.

The Column Filtering Tab is a six deep filter that allows for any combination of Fileld Name, Clause, Values1, Values2 and Operator. Each layer of the filter is applied in context with any previous layer such that complex filtering tasks are straight forward.

An example below, using the Column Filtering Tab to filter the SBA Database on a Site Code that contains the letters "ab" :



By clicking Apply Filter , the result of this filter would be to display only those values in the database that fit the filter criteria.

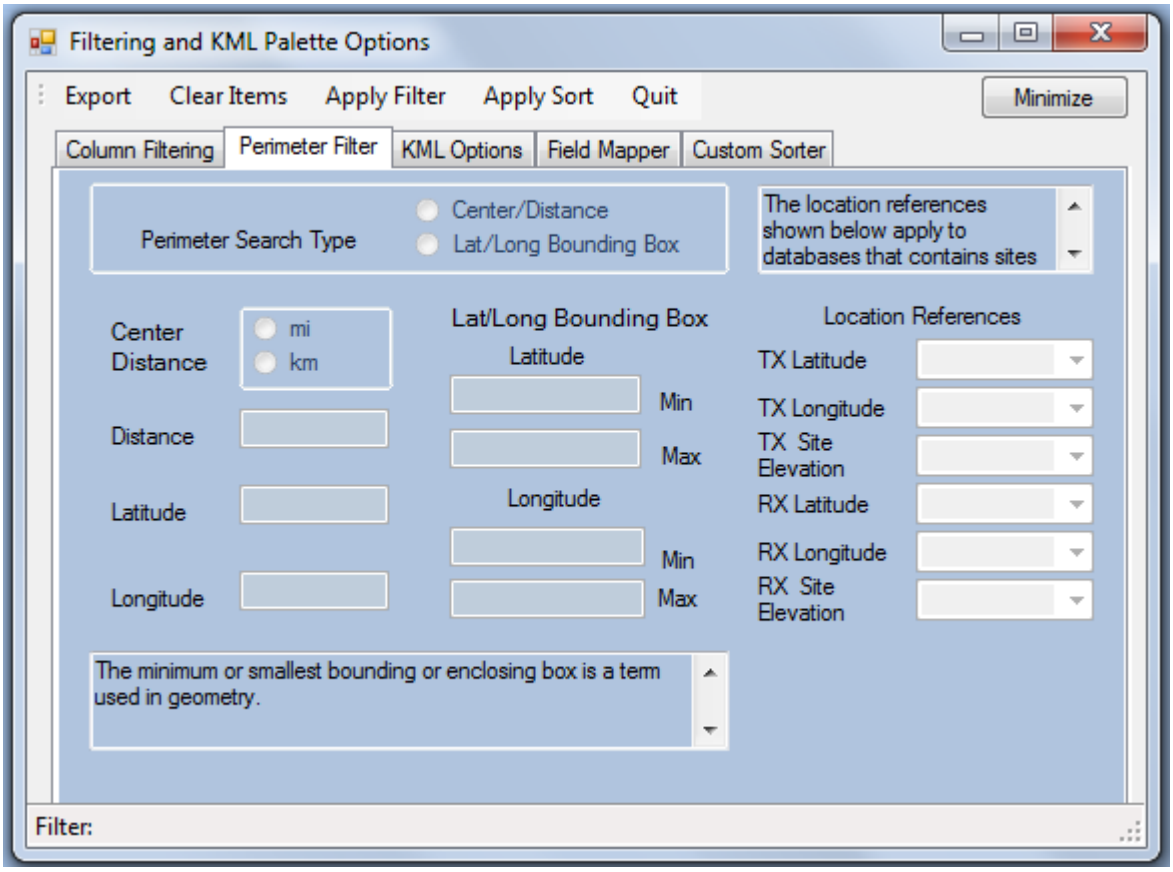
Notice that the complete Filter Expression is shown at the bottom of the FilterPalette. As the user gets more proficient using the filter capabilities, the built-in features may become too restrictive. At that point the user can build the Filter Expression precisely as required and then enter it into the Roll Your Own text box. This allows for ANY expression that can be defined to be expressed so that the six layers provided for manually building a filter do not become a restriction. For most users this will never be a problem as six layers are enough for almost all applications.

Using the Roll Your Own text box requires that the Filter Expression be inserted into it. One way to that is for the user click Save Filter to Clipboard. Go to saved clipboard, copy and then paste it to Roll Your Own text box. Note that using the Roll Your Own text box takes precedence over the field name selections. User will need to clear the Roll Your Own text box in order to use the field name selections.

If user plans to do a Perimeter Filter, the Perimeter Search button needs to be set to 'On', as it defaults to 'Off'.

Also notice that Band Filters are supplied so that the database can be Frequency Selective. This allows for much greater flexibility in exporting a filtered database in that not only can the Field Names be filtered but the database can be further sub-filtered based on frequency as well. This becomes advantageous if the user wants to have multiple KML maps with separate frequencies shown with different colors. See the KML Options for more information.

Perimeter Filter



The FilterPalette Option is located in the Main Menu. Once you have a database imported to the Database Viewer, click on the FilterPalette Option.

The Perimeter Filter uses a minimum bounding box method of determining candidate locations for inclusion in a database search.

The minimum bounding box can be defined using a latitude and longitude as the center of the box. Center, as used here, is equidistant between the latitude and longitude minima and maxima midpoints. The operator also defines the distance criteria in either miles or kilometers and the resulting database is filtered accordingly.

The Perimeter Filter can be used separately or in conjunction with all other filters of the FilterPalette.

A second form of perimeter searching is also available. The user can specify the minimum and maximum of both the latitude and longitude search area directly. All sites corresponding to this search criteria will be included in the resulting data selection. The Perimeter Search Type selection is mutually exclusive but either selection can be used in conjunction with other filters.

The Perimeter Filter Tab must be turned on or off from the Column Filtering Tab by setting the Perimeter Search button. But, once the feature has been selected, it is an option with its own tab.

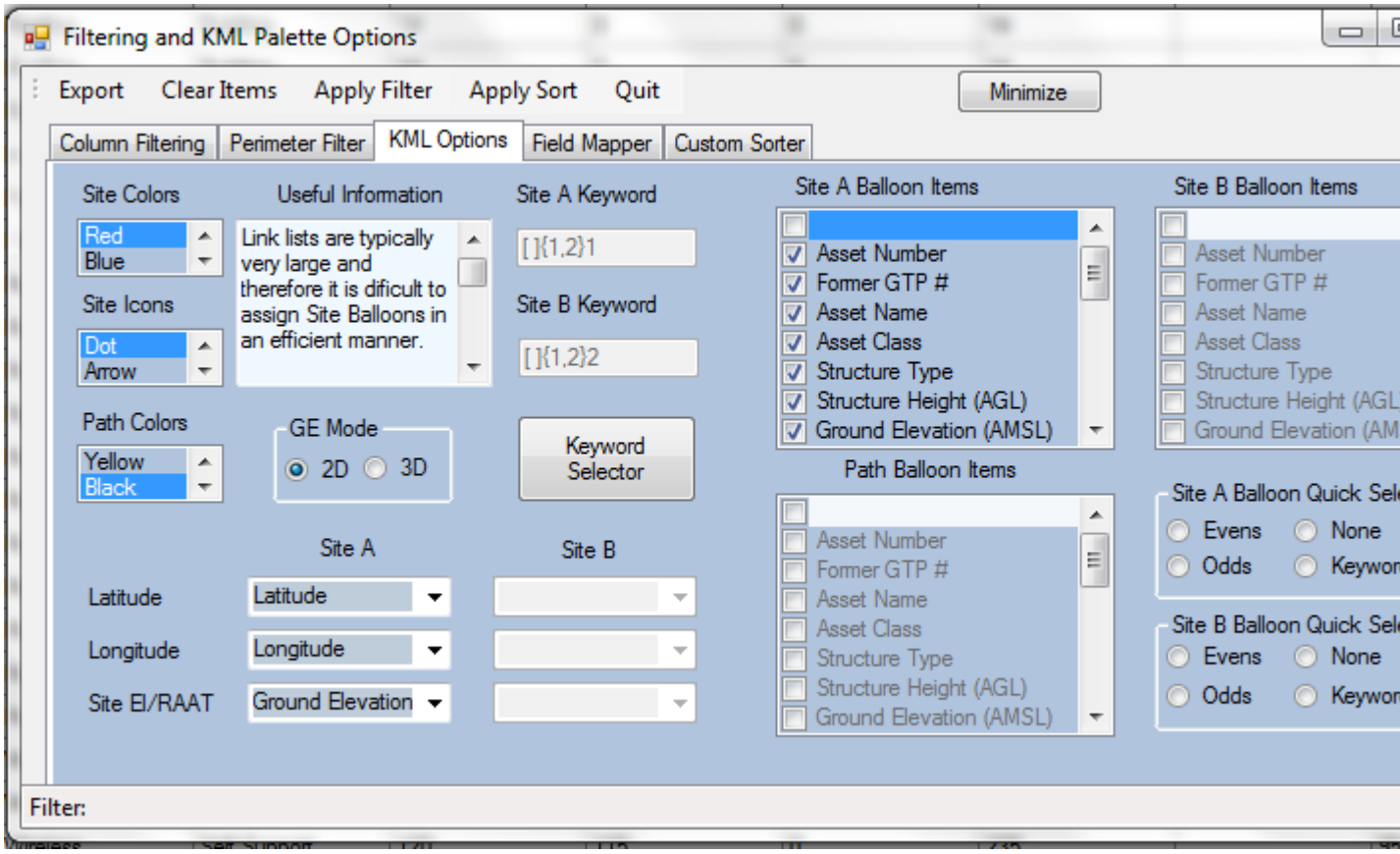
When the filter criteria has been specified then the option can be invoked by clicking Apply Filter.

KML Options

The FilterPalette Option is located in the Main Menu. Once you have a database imported to the Database Viewer, click on the FilterPalette Option.

The KML Options Tab is a complete KML customization tool that allows for the database to be exported to a KML file with user-selectable criteria.

A KML Options example using the following criteria will export to a KML file consisting of a sites-only database that has Red Dots for sites:



There are six different colors for Site Colors and Path Colors as well as six different icons for Site Icons, thus allowing for a vast array of options in tailoring in the KML maps for very specific displays.

Sites and Paths databases can be exported as well and when Paths are an option then the color of the path lines can be selected too.

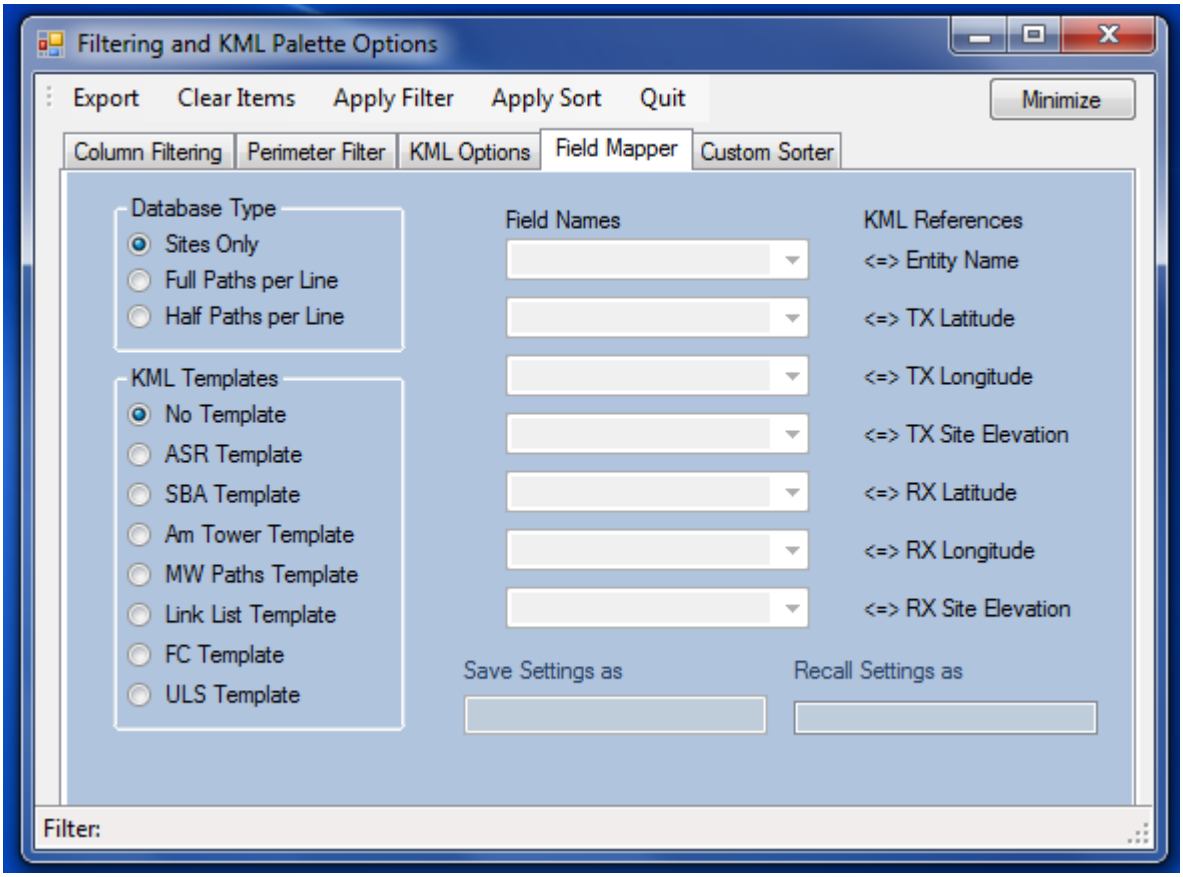
Site Balloon Items options and Path Balloon Items options are fully user-selectable as well. Default values assume that the all Column Names will be used in the balloons for the columns that apply to sites or paths but the user can tailor the balloon contents as required.

The Database Type can either be Sites Only or Sites and Paths. The selector for this option is located in the Field Mapper Tab. Depending on the type of database some of the selection criteria may be disabled so that only those selections that are applicable can be defined.

Once the user has completed the filtering process, click Apply Filter and the results will be displayed in the Database Viewer.

Related Topics:
Field Mapper

Field Mapper



The FilterPalette Option is located in the Main Menu. Once you have a database imported to the Database Viewer, click on the FilterPalette Option.

The Field Mapper Tab allows for the Database Type to be specified as either Sites Only or Sites and Paths. This determination disables other selector fields as necessary.

Additionally, a KML Template may be specified if using a Generic Path List Database. This feature allows for field mapping similar to a known Standard Database when dealing with generic path lists.

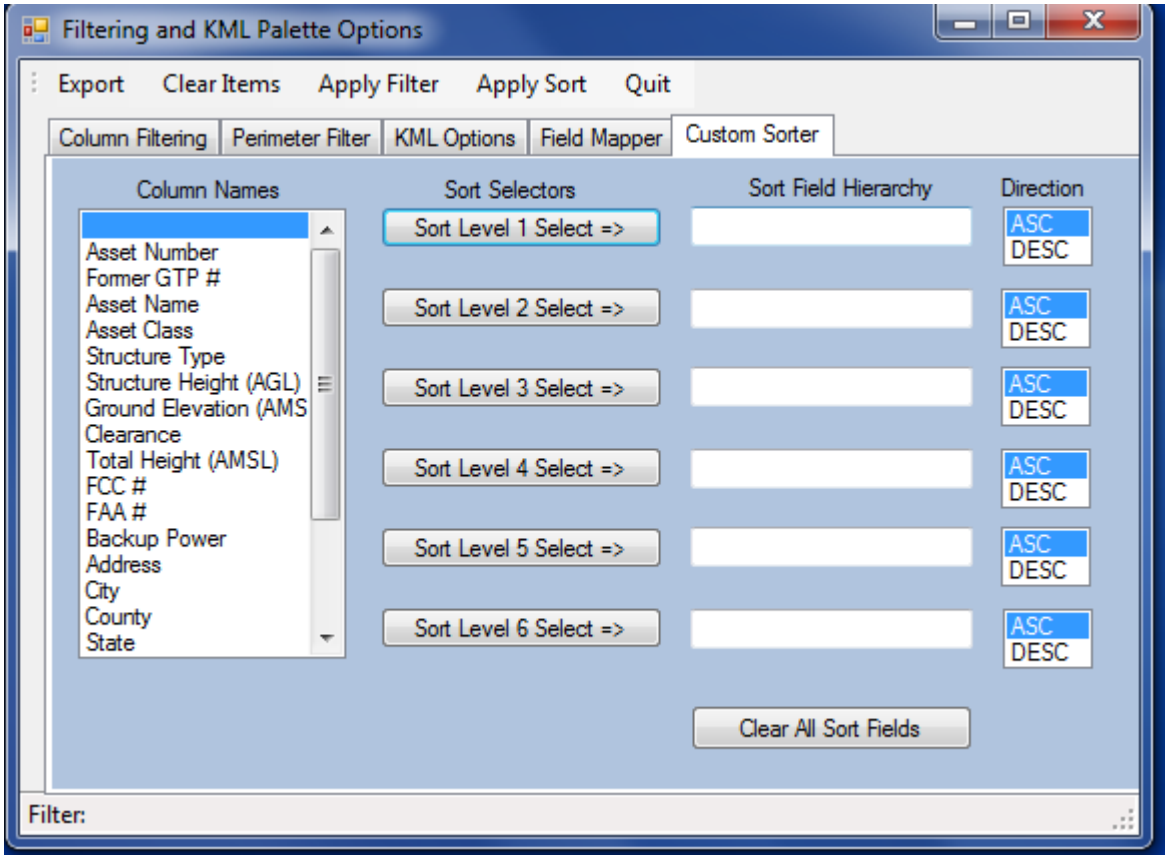
A future feature will allow for specific field mappings to be saved and recalled using a named string for the reference.

Finally, Site A and Site B (or TX and RX Site) data for latitude. longitude and site elevations can be specified through this page.

When the filter criteria has been specified then the option can be invoked by clicking Apply Filter.

Related Topics:
KML Options

Custom Sorter



The FilterPalette is located in the Main Menu. Once you have a database imported to the Database Viewer, click on the FilterPalette Option.

A six level Custom Sorter is available through the FilterPalette as well.

Simple sorting can be accomplished by clicking on the Column Name in the Database Viewer. This may not always be sufficient especially for large complex databases. The six level Sort Selectors in the Custom Sorter Tab allow for as many as six different fields to be individually or collectively selected as either Ascending or Descending sorts.

To begin the sort, click on a field in the Column Names, then click on one of the Sort Selectors. The Column Name for that Sort Selector will be displayed in the Sort Field Hierarchy box. Then choose the Direction of the sort, either ASC or DESC.

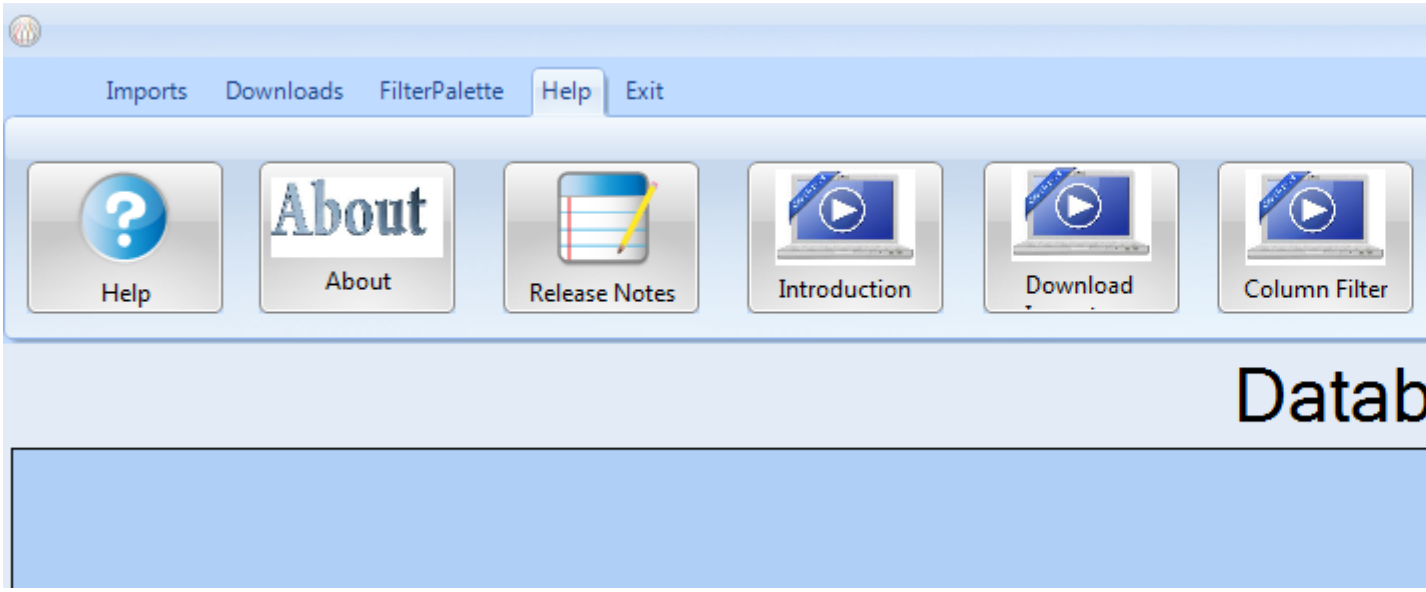
The user can clear all sort fields by clicking on the Clear All Sort Fields tab. If user wants to clear an individual Column Name and leave the others, scroll to the top of the list, click on the blank, highlight it, click the Sort Level to replace with spaces.

When the sort criteria has been specified, then the Custom Sorter Tab option can be invoked by clicking Apply Sort.

Exit

The Exit Option, located in the Main Menu, shuts the program down by deleting all existing viewers, filters and sorts and then quits the SDL Network Viewer.

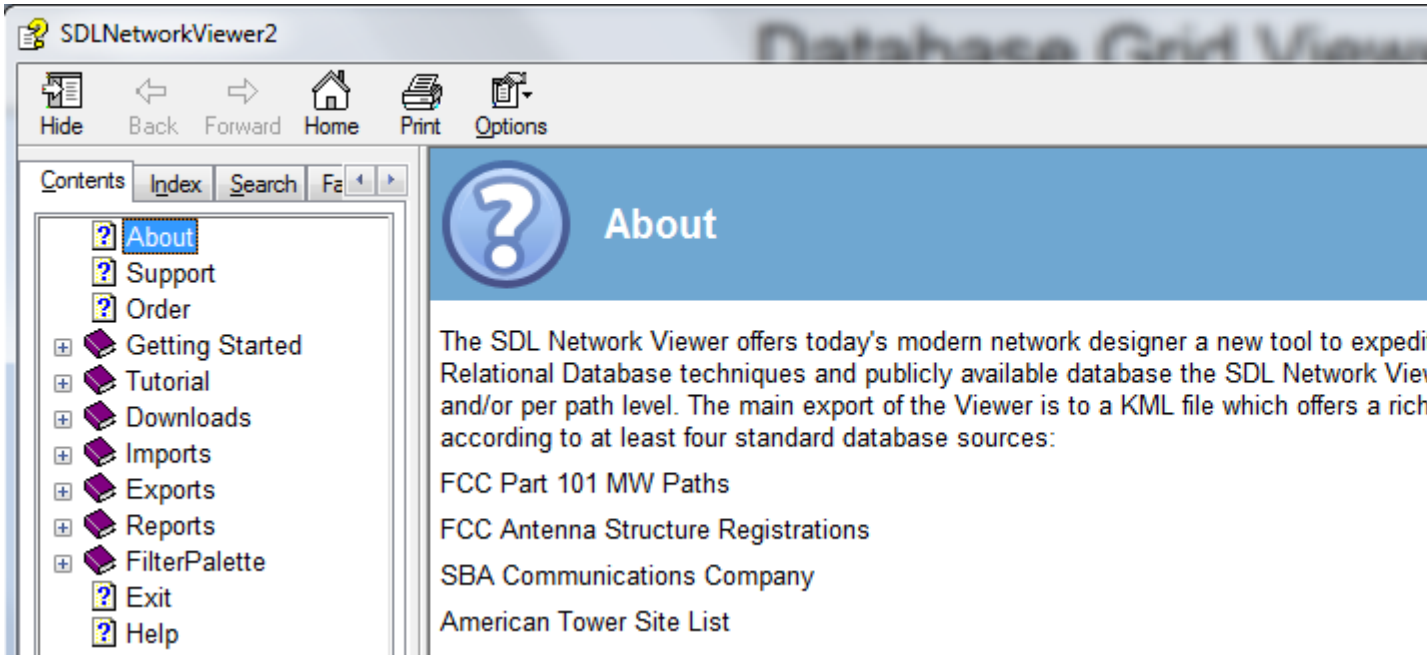
Help



The Help Option is located in the Main Menu of the SDL Network Viewer.

Help? Selection displays the user manual and describes in detail all aspects of the SDL Network Viewer.
About Selection displays the current release of Spacial Datalyst that is being used.
Release Notes Selection displays all releases and their content.
Activate License Selection displays an Activate box, whereby the user will input the activation code and have it verified.

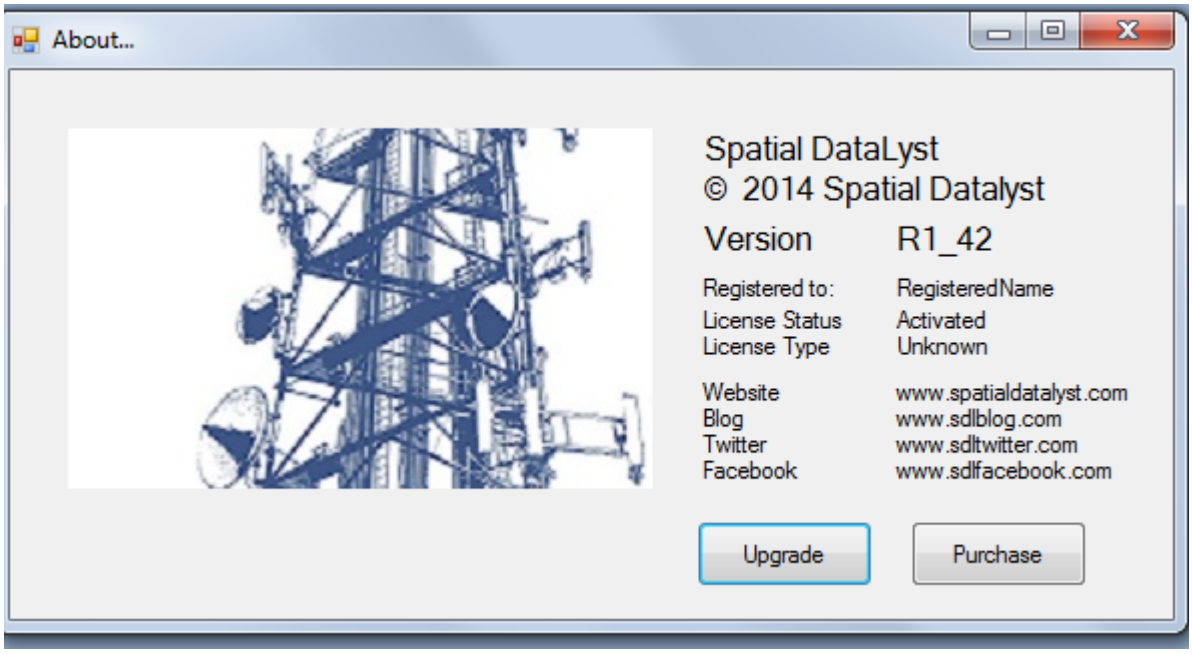
Help?



The Help Selection is located in the Help Option of the Main Menu of the SDL Network Viewer.

The Help? Selection displays the user manual and describes in detail all aspects of the SDL Network Viewer. It describes how to get started, a tutorial of screen displays, and explanation of downloading importing and exporting databases.

About



The About Selection is located Help Option of the Main Menu of the SDL Network Viewer.

The About Selection describes the Spatial Datalyst version currently loaded and pertinent information for the user.

Release Notes

The Release Notes Selection is located the Help Option of the Main Menu of the SDL Network Viewer.

Release Notes Selection describes the changes made for each release.

Videos

Videos introductions of various aspects of the SDL Network Viewer.

Version

The latest version of the manual is:

SDLNetworkViewer_Manual_Version_R1_42_090114.CHM

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